

DAILY METAL REPORTER

MONTHLY SUPPLEMENT

METALS

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In This Issue

WORLD METAL SUPPLY, DEMAND AND PRICE STABILIZATION

(Part I)

By DR. J. DUNN, Formerly Minerals
Advisor to Australian Gov't

OUTLOOK FOR COPPER INDUSTRY

By OTTO BARTH, President
Barth Smelting Corporation

BRITISH METAL MARKETS

By L. H. TARRING
London, England

DOMESTIC METAL MARKET REVIEW

WASHINGTON REPORT

METAL STATISTICS

**MAY
1960**

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Two LINE Editorials

Mr. K. announces that income taxes are to be abolished in Russia. Could that be because incomes have already been abolished?

* * *

Cuba is selling to Russia for three cents a pound sugar that cost four cents a pound to produce. Some business men who have tried the same method of operating could tell Mr. Castro that it's hard to make money on this basis.

* * *

An Army scientist announces that they have invented a gas that can cause the whole world's population to go insane — and sometimes we wonder if they haven't been using it already.

* * *

An old-timer is a man who can remember when you could buy something for a dime in the dime store.

* * *

Recently published statistics show that college professors live longer than the average. Maybe it's because they are so underpaid they can't indulge in the dangerous luxury of over-eating.

* * *

An article in a financial magazine states that bathing suit manufacturers last year did a business of \$140,000,000. Never, it might be said, was so much made from so little.

Washington Report



May 19, 1960

ALUMINUM and copper joined lead and zinc in the Washington news spotlight during the month in review. Problems of small firms in the aluminum industry were discussed at hearings of a House Small Business subcommittee. Lead and zinc continued to make news on the Congressional front.

A Commerce Department spokesman told Congress that the present supply-demand situation in aluminum scrap does not warrant imposition of short supply controls. Although export shipments of aluminum scrap "are continuing at a relatively high rate," Walter A. Edwards, Deputy Assistant Secretary for Domestic Affairs, said "domestic supply and demand are in balance and are expected to remain so, so far as we can foresee now. The fact that prices have changed very little in recent months during which exports have been relatively high is evidence of this balance."

Mr. Edwards noted that aluminum scrap exports in 1959 were significantly higher than during the preceding few years. From 1955 to 1958, scrap exports averaged about 37,200,000 pounds per year. In 1959, he said exports increased sharply, particularly in the latter part of the year, to 64,800,000 pounds, with the bulk going to West Germany, Italy and Japan. Shipments so far in 1960 are averaging approximately 11,000,000 pounds per month, he pointed out.

Statement by Lipkowitz

The question of safeguarding free world aluminum markets from the disruptive effects of Soviet exports was discussed by Irving Lipkowitz, director of economic affairs, Reynolds Metals Company, in a statement submitted to the Senate Interstate and Foreign Commerce Committee. He suggested that, based on the British experience with Soviet aluminum, quotas may be effective.

Economic isolationism or a quarantine of Soviet commerce is not likely to be a realistic solution to the dumping problem, Mr. Lipkowitz said. "Even the United States has in-

creased its purchases of Soviet products sharply," he said, "from \$17,600,000 in 1958 to \$28,300,000 in 1959."

Mr. Lipkowitz also emphasized that the Soviet "dumping problem" will not cure itself. Discussing specific measures that could be taken, he said: United action by the free world is required; the British experience with quotas on Soviet aluminum, and also on tin, should be thoroughly studied to see whether they offer an adequate answer; various proposals should be considered which look toward some form of governmental financial support for free world products wherever they compete with Soviet products, as well as application by the industrial free world of the anti-dumping rules laid down by GATT to Soviet exports when they disrupt markets.

"Until somebody finds the solution—and nobody seems to have thus far—these and any other ideas should be explored vigorously by government and industry," Mr. Lipkowitz said.

Copper Trade Problems

Foreign trade problems of the copper industry, which does an export business of upward of \$150,000,000 annually were outlined at a conference with officials of the U. S. Department of Commerce, designed to develop measures which the Government might take to increase the sales of copper producers and fabricators in other countries.

Opinion was expressed that some segments of the industry, including wire and cable producers, could broaden their markets in Latin America if more adequate Government-backed export credit arrangements could be available.

Statement by Veltfort

T. E. Veltfort, managing director of the Copper and Brass Research Association, urged "a realistic treat-

ment" of the import problem. He said that the "substantial difference in costs between domestic brass mill production and those abroad makes any material increase in exports impossible, even if foreign tariffs and other restrictions were completely removed."

The CABRA official said that the prospects for markets abroad for such special mill products as only the U. S. at present can make economically or satisfactorily, "are too small or scattered to exploit intensively." "Essentially," he said, "countries such as the United Kingdom, West Germany and Japan, with their relatively low labor costs are in a preferred position to capture such foreign markets as are available for the ordinary run of brass mill products, except in such minor instances where political or financial sponsorship would turn the business to the United States regardless of relative prices."

Lead-Zinc Subsidy Bill

As far as lead and zinc are concerned, the best legislative prospects concern aid to small producers. The subcommittee on mines and mining of the House Interior Committee favorably reported a bill (H.R. 8860) with an amendment reducing the tonnages for producers qualifying under the program from a total of 5,000 to 2,000 tons of zinc and 2,000 tons of lead annually.

Rep. Ed Edmundson (Dem., Okla.), author of the measure reported by the subcommittee, stated the reduction in tonnages was in line with Administration recommendations and reduced cost of the program by at least one million dollars annually. As reported by the subcommittee, the bill provides authorization for annual appropriations of not to exceed \$4,840,000 to finance the stabilization and conservation payments to small domestic producers covered by the program.

The Secretary of Interior is charged with administration of the Act and authorized to make payments when the price of lead falls below 17 cents per pound and the price of zinc falls below 14½ cents per pound.

Measures identical to the Edmundson bill are pending in the Senate under sponsorship of Senators Robert F. Kerr and Mike Moroney, both Democrats from Oklahoma.

Mineral Policy Measure

A Senate-approved measure designed to establish a national minerals policy was considered by the House Interior Subcommittee on May 23 and 24. The bill (S. 1537) would
(Continued on Page 16)

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Price Stabilization for Metals

By DR. J. DUNN, Formerly Minerals Economic Advisor to Australian Government

THE FREE WORLD consumption of new lead has increased over the last 10 years at the rate of about 40,000 tons annually; the bulk of the increase has been in E. E. C. countries. In judging the future trend many factors have to be taken into consideration, but a recent study suggests that the past rate of increase is likely to continue to about the mid-1960's, by which time the rate of increase in E. E. C. countries will have diminished. Unless "under-developed" countries show signs of more rapid increase in consumption by then, the Free World requirement of new lead may flatten off around 2.1 million tons annually by the 1970's—about 300,000 tons above the Free World present production capacity. There are apparently ample resources available for development to meet this demand.

The rate of increase in new zinc consumption over the past decade shows no sign of decreasing despite the check during the recent recession. To meet the expanding requirement it is reasonable to anticipate that Free World mine production capacity must be increased by one million tons of zinc to a total of perhaps 3.5 million tons by the 1970's. An adequately detailed study of the many related factors has not yet been made, but it would appear that the resources available to meet this zinc requirement are very considerable indeed—so considerable that they may well reflect on the production of the associated lead. However, if recent suggestions are substantiated that a new plastic may replace die-cast zinc for certain purposes, the zinc trend may be modified.

The trend in the Free World consumption of new copper is continuing its upward climb, apart from the brief check during the recent recession. By the mid-1970's, a reasonable projection would estimate consumption of new copper at 4 million tons annually, about 50 per cent higher than at present, and about one million tons above the Free World present production capacity. Resources in Central Africa, Canada and South America would appear to be capable of meeting this requirement.

EDITOR'S NOTE

The accompanying article contains Dr. Dunn's provocative proposals for improving metal pricing procedures, made in the concluding section of a paper delivered at the 12th International Congress of Scientific Management in Melbourne, Australia, on March 1, 1960. Because of the timely references to the London Metal Exchange pricing basis, recently commented upon by Sir Ronald Prain, chairman of the Rhodesian Selection Trust, Ltd., and others, and the suggested changes in the International Tin Agreement, subject to renegotiation this month, we have taken the liberty of publishing Dr. Dunn's closing remarks first. The remainder of his paper will be published in succeeding issues.

It would seem that adequate supplies of lead, zinc and copper will be available during the next 10-15 years, assuming that new mines are fully free to develop and are not retarded by restrictions to free marketing. Beyond that period the picture is far from clear, but it is certain that, to maintain supplies, increasingly lower grade ore-deposits must be worked and in general, the prices of zinc and copper may rise over the longer term. Judged on trends today, possibly by the 1970's we may be regarding lead not as a co-product but rather as a by-product of zinc—however, much depends upon the extent to which new uses, if any, may be found for each of these metals, and the extent to which each can hold its present usages.

Possibly Russian mines will add some quota to Western supplies, but the growing Russian industry seems likely to require the full domestic output of copper, lead and zinc.

Situation in Tin

Although Free World tin production has been considerably greater than real consumption for some years, up to the recent recession production was slowly falling while consumption was slowly rising — they seemed to be approaching a balance close to 160,000 tons of new tin annually. Consumption has again resumed its upward course in 1959 and, if the average annual increase of 4,000 tons during the past decade is only partially maintained, a Free World requirement of 180,000 tons of new tin annually by the mid-1970's is a reasonably conservative projection. But the apparent new resources available in the Free World will not suffice to meet this requirement. Indeed, if output is to be maintained in the most important

producing country, Malaya, it may be necessary to re-work old ground from which the recovery of residual tin may prove to be possible under improved technique. Higher-cost production may lead to an upturn in price. In addition, we may become partly dependent on communist tin, production of which has greatly increased during the past three years. Long before the end of this century the metal's present-day greatest use—in tinplate—is likely to be largely taken over by substitutes.

It may be noted that, despite the considerable surplus production of tin in the past, the position of this metal in the near future is likely to be very different from that of the other three base metals. The necessity for a forward-looking policy of conservation and, where possible, development of tin resources, is urgent. This position of tin may carry certain implications relating to international agreements and, indeed, may justify marketing treatment different from that accorded, at this stage, to the other base metals.

Some Basic Factors

We have noted that government policies have been the main force contributing to price instability of the base metals in the post-war years, and have presumed that some influence by government policies must be accepted as part of the future marketing picture.

The principal lessons of past attempts to stabilize prices, summarized in this review, emphasize that, to date, there has been no satisfactory answer to the problem of base metal stabilization. But, notwithstanding the past lack of success, we should continue to examine the problems. Down the years the markets

have changed profoundly and will continue to change. Our brief glance at the probable relation of supply to demand in the not too distant future leads to the conclusion that each of the base metals is likely to have a distinctive supply characteristic.

Although we may have had great faith in past methods, and may be loath to alter them, some time or other we may need to acknowledge that traditional methods or institutions are no longer suitable for the new conditions. However, it is essential that we have clearly in mind the basic factors which must underlie our thinking on these problems.

If secondary industries are to plan ahead with assurance that adequate supplies of raw materials will be available, and if the base metals are to meet the competition of substitutes, world production capacity of the base metals must normally be rather in excess of world real consumption. This "norm" or excess production capacity, which is so important to industry in general, is a contributory factor in the fluctuation of prices of the base metals, even during periods of reasonably balanced supply and demand.

Price Levels on LME

However, during periods of unusually heavy demand, or of severe checks to production such as by widespread prolonged strikes at mines, no scheme proposed to date could prevent prices of the base metals from rising to abnormal levels, above the maximum of the general price range—bidding by consumers ultimately decides the level on the London Metal Exchange.

Under high prices new production capacity is further stimulated. If high prices are the consequence of abnormal demand the "norm" of excess production capacity is disturbed and greatly increased by the time demand recedes to normal. If high prices are the results of checks to part of production, the extent of the excess production capacity is heightened when the checks are removed, unless real consumption has risen closer to the increased capacity in the meantime.

During a recession, when demand falls seriously in a market in which the "norm" is one of excess potential supply, the price may recede below the floor of the normal general price range for quite a considerable period. Either marginal mine capacity is forced out of competitive production, or producers decide to reduce output by agreement. The position cannot be fundamentally improved until real

consumption again rises closer to production capacity.

In the past such periods of serious prolonged falls in demand have been rare; during the present century the only instance in an entirely open market was during the depression of the 1930's. The more recent fall in demand, during 1957-58, was created initially by government stockpiling policies, followed by their cessation at the beginning of a brief recession.

Other governmental policies of a more permanent nature, such as undue tariff protection, direct subsidies on production, and other devices which help to insulate non-competitive mines in certain countries, have also a disturbing effect on the production in countries in which such support is not available.

What to Stabilize

Discussions on instability of prices inevitably lead to the question, "What, precisely, do we wish to stabilize?"

If we believe that price is the decisive factor then the level of price is important. If price is supported at too high a level, then mine production is encouraged to an extent far above real consumption—either mine production must then be severely cut, or excess must be absorbed into stockpiles. Neither solution can be other than of short term significance, and the price must be lowered to eliminate the more marginal output.

If a controlled price is decided which just suffices to develop the requisite production to meet that amount of metal required by industry today, it may not suffice for the market of tomorrow—adjustment of price will be necessary later to meet the new conditions, and must be made in adequate time if a shortage is to be avoided.

Having in mind the general up-trend in world consumption of the base metals, our first objective should be to ensure as far as possible that world capacity for production, at all times, will be available to meet that broad trend. This objective far transcends in importance action to smooth out the effects of short term abnormal demands.

Governmental Actions

Thus we have a most important principle in relation to the mineral industry—government or international actions which tend to inhibit prospecting for or development of competitive new resources are inconsistent with the interests of long term stabilization.

As mine capacity increases, it will normally include an amount of surplus capacity (other than that due

to temporary checks along the market pipeline) which will fluctuate according to real consumption. With the principle just enunciated in mind, the fluctuating demand in a competitive market may be best satisfied by a range in price which will bring out a sufficiently variable amount of metal within the limits of the capacity available.

Unless the supply capacity has been encouraged too far ahead of the trend in real consumption, the fluctuations in demand above and below that trend will not cause unduly excessive price fluctuations—the price range will be kept to a minimum.

Of course, many see no point in stabilization schemes. It may be correctly claimed that, given time, the market if left to itself can provide the forces necessary to adjust supply to the longer term requirement of rising consumption and to correct the shorter term imbalances. But, today, many assume that intergovernmental agreements would give a more rapid adjustment for the short term imbalances. Governments can so arrange monetary and fiscal policies as to influence demand within certain limits, but in general, the onus for rapid adjustment under restrictive agreements or otherwise has, in the past, been thrown on to the producer.

The Road Ahead

Can we see a road ahead through the jungle of facts and difficulties, many of them conflicting in significance?

Clearly, removal or modification of the underlying causes of acute price fluctuations is the real problem.

We have seen that some governmental policies—particularly stockpiling—have a disturbing influence on prices in general. Others, such as subsidies, tariffs, or quota imports, may provide some stability to domestic industry, but greatly disturb the industry of other countries. Some of these policies are here to stay and we can only hope to modify their influence.

In the international sphere, the machinery of the International Monetary Fund, OEEC, and various financial organizations, may have a profound influence on industrial stability. This influence may be expected to continue to grow, with experience, as it has in the past.

It is hoped that the European Economic Community will contribute a steadying influence on world trade. Perhaps the expansion of that community, and the creation of similar communities in other regions, would

further promote world industrial stability.

International Policies

In the future, then, we should look forward to further basic international financial policies which may increasingly influence the steady flow of trade. Maybe the time has arrived when, under the Economic and Social Council of the United Nations, the problems of the world industry in relation to the demands of the future may be subject to more searching scrutiny. But, in doing so, it should not be overlooked, as seems to have been a tendency to date, that the technical problems are as important as the economic and political—a blending of the three facets of industry at the international level is increasingly desirable.

It is to be hoped that the Lead and Zinc Study Group recently formed under the United Nations will be able to compile and publish statistics on the lead and zinc industries of similar high standard to those first compiled by the Tin Study Group and since continued by the International Tin Council.

Turning now to the particular problem of price fluctuations in the base metal industry, clearly the mechanism of marketing on the London Metal Exchange is responsible for the daily fluctuations in price. Although only a small amount of metal passes through the Exchange from producer to consumer, these daily price changes directly or indirectly influence all other world prices. In bidding for metal on the Exchange, the consumer has in mind the broad relation of demand to production capacity over a period; but there are many short-term factors which influence his day to day bids—the stock position, checks to supply such as strikes or sudden governmental actions, the immediate availability of prompt metal, and the many psychological considerations to which all dealers are subject.

Other Major Metals

In the case of the other major metals, aluminium and iron and steel, price quotations are set by the producer, and are of a long term nature—indeed, any suggestion of daily quotations would not be tolerated for a moment by these industries. Base metal producers in the United States, and copper producers in the Belgian Congo, have also a longer term system of pricing, but, of course, their level of prices is influenced by the LME cash quotations.

Admittedly, the difficulties of base

metal marketing differ from those of other metals, but perhaps those difficulties are minor in comparison with the problems which LME daily cash quotations are creating in world industry. The London Metal Exchange is an old established institution which has given wonderful service to industry, and one would be loath to see it disappear. But, in an industrial world of so many disturbing influences, such a method of pricing has perhaps become an anachronism.

Supporters of the Exchange are, of course, right in their contention that industry has been at fault in not passing a greater tonnage of metal through the Exchange. But that weakness is only a part of what, after all, is a single problem—the daily quotation, and its tendency to exaggerate the significance of the variations in demand and supply. The Exchange has made no pertinent effort to meet the changing conditions of trade; fundamentally its mechanism has been the same for nearly 80 years. Naturally, one acknowledges this conclusion with the greatest reluctance after almost a lifetime of appreciation of the functions of the LME. Maybe the conclusion would have been otherwise had this review been written in London and not on the opposite side of the world.

Nevertheless, the London Metal Exchange, since it reopened in post-war years, has been functioning in a market strongly distorted by governmental actions. The disturbing effects on base metal prices by past stockpiling policies will not finally disappear until about 1962—assuming, of course, that metal from the vast U. S. stockpiles is not released. In the meantime we may hope that the promotion of world industrial stability by the more fundamental influences available will become increasingly felt. If, during the next three years, an improvement in stability of base metal daily prices on the LME is not apparent, then some alternative method of pricing and marketing should be considered.

Marketing Organization

The disappearance of the LME's daily cash quotation would require some facility not only for the smaller producer to market metal, but also for the marketing and pricing of production in general. It should be possible for producers to form a world-wide marketing organization, with or without the co-operation of consumers.

Such an organization would periodically adjust base metal prices to levels which would maintain produc-

tion in reasonable balance with demand—non-competitive production would not be encouraged.

Direct producer consumer trade would continue under the organization's offices, with necessary adjustments for grade and transport. Producers would need to agree to maintain minimum stocks to ensure that demand could be met during short term checks to supply.

There need be no fears that such an organization would lead to excessive prices under normal supply and demand, for unduly high prices would lead to increased production and abnormal stocks, the cost of which could lead to a breakdown in the organization. As with aluminium and steel, metal would generally be available at reasonable competitive prices, varying with the extent of demand from time to time. During a period of shortage, price rises are more likely to be moderate than under the present LME daily bids.

It may be practicable to continue the London Metal Exchange solely as a futures market, as on the New York Commodity Exchange—if this should prove to be possible it would provide the organization with an indication of the consumers' assessment of price.

Obvious Difficulties

There are several obvious difficulties which would need to be negotiated if such an organization were to become practicable.

To function fully effectively, all world trade in these base metals should advisedly be under the organization's administration, and all producers should agree on concerted action. The decision of a principal producer to remain outside the organization's scope could jeopardize its success.

The need to determine a level of price commensurate with demand at any time would lead to pressure groups of producers demanding that prices be lifted to levels which are in their particular interests until excessive stock build-up forced revision.

A principal difficulty would be the governmental support given in some countries to non-competitive production. An organization of the type proposed would be in a strong position to negotiate some amelioration of the difficulties created by such national support policies.

The proposed world marketing organization, unlike international agreements of the restrictive type such as that for tin, would leave full scope for competitive development and production. It could hold a rea-

(Continued on Page 16)

Outlook for Copper Industry

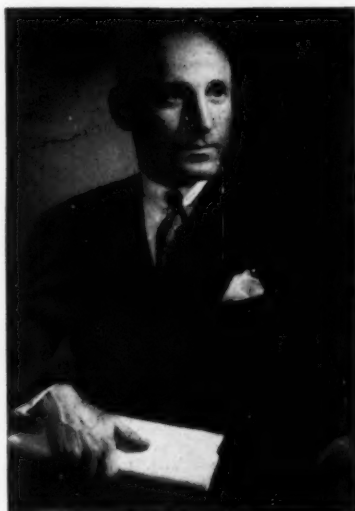
By OTTO BARTH, President, Barth Smelting Corporation, Newark, N. J.

I SHOULD like to discuss briefly conditions and the outlook in the primary and secondary copper industry.

For many years, the copper industry, and especially copper consumers, has been alternately plagued with shortages and excessive prices and with oversupplies and depressed price levels. For this reason, the industry has been named a "feast or famine" industry. This historical lack of stability has cost the industry dearly. It has impeded the vigorous expansion of copper consumption in favor of widespread substitution of copper by aluminum, plastics, and other raw materials. During the last two years, however, the old complacency has given way to more constructive thinking and planning. The copper producers are recognizing that adequate and stable supplies and an energetic program to promote new uses for copper are musts for the health and growth of the industry. They have developed extensive new ore deposits and mines and are building new refinery capacity here and abroad. These are expected to provide 500,000 tons more annual world copper production and promise an abundant copper supply at least for the next few years. At the same time, the Copper and Brass Research Association is spending millions of dollars to publicize and to popularize the advantages of copper and to broaden the usage of this vital metal in new applications. Also, the newly created Trade Relations Council, under the able direction of Mr. McCoy former head of the BDSA, is vigorously tackling the problem created by the recurring and steadily increasing flood of imports of copper and brass mill products which have retarded our fabricators business and created instability.

Supply and Consumption

When we examine the supply and consumption of copper, we find that but for temporary dislocations and mal-distribution due to strikes and due to our business recession of 1958, we have generally had a comfortable balance between supply and demand



OTTO BARTH

in recent years. The figures for production and shipments to consumers for the last five years show that average world production of refined copper during 1955 to 1959 was roughly 2,900,000 tons annually. World shipments to consumers during the same five years averaged 2,864,000 tons — an average annual excess production of roughly 36,000 tons.

Most of this modest excess production went into government stockpiles — a total of about 240,000 tons.

To put it another way, world refined stocks at the end of 1955 were 221,331 tons; whereas at the end of 1959, they were 293,000 tons. But during this five-year period, and this has been the great problem for consumers, we had an extreme price swing, namely a high of 54½¢ for custom smelters copper in March 1955 and a low of 23¢ in February 1958. This lowest price coincided with the highest level of refined stocks of 450,000 tons at the end of 1957 and early 1958. It was then that production was curtailed by more than 200,000 tons annually world-wide which, within one year, brought these stocks down to 262,000 tons total at the end of 1958.

Precaution Against Glut

The greater attention paid to supply problems now is indicated by the

statement of Mr. Prain, the Head of the Rhodesian Selection Trust, in an address to stockholders during this past week to the effect that the Rhodesian group has maintained a 10 per cent curtailed rate of production. Also, Mr. Page, the president of Phelps Dodge Corporation, stated last week that his company has resumed copper production following the last strike likewise at a 10 per cent curtailed rate. These actions show a timely precaution against a demoralizing glut of copper.

Now, government stockpiling is negligible. (Actually our authorities would like to dispose of some government copper, if that can be done without disrupting the market.) Copper consumers and merchants are now greatly fearful that later on this year, we shall have a worrisome surplus of copper unless production is carefully adjusted to demand. This apprehension gains support from the latest statistical figures as of the end of March.

Copper production during March was at a record high of 302,000 tons, or at a rate of over 3½ million tons annually. Consumption, however, during the past five years has never exceeded 3,250,000 tons, so that there is an apparent surplus of 200,000 to 300,000 tons annually. This is not fully counting new copper production coming in nor expected increases in consumption.

Consumption Potential

But in this connection, we must also note that there exists an enormous potential for a large increase in copper consumption. Per capita consumption in the United States is roughly 18 pounds plus; whereas in the rest of the world, which is rapidly moving towards general electrification and higher living standards, copper consumption is only 1½ pounds per capita. In a world at peace, economic expansion everywhere should require even higher production — but that lies some years in the future.

Price Outlook

As to the price outlook: It is an old axiom that with increasing supplies, the price trend is downward. For the time being, however, our very small

* Address delivered before meeting of Empire Metal Merchants Association, Inc., May 4, in New York.

refined stocks here, which total only 61,598 tons, solidify the 33c price for some time at least. Abroad, worry over possible disruption in the flow of low cost copper when the Belgian Congo gets its independence, and the ultimate solution of the social and political problems of the Rhodesian Copper Belt in South Africa, labor troubles in Chile, have moved copper prices considerably above our U. S. parity with the results that the large copper imports which sustained us during the recent copper strikes, have largely stopped.

In other words, presently there is no cheap foreign copper depressing the market here as has been the case so often in the past. There may well be difficulties during the transition period in the Congo and in Rhodesia. However, copper production is the very life-blood of their economies and of their very existence so that ultimately, whatever governments may direct their affairs, it will be of vital importance to safeguard a continued large flow of copper from these regions. Thus, over a period of time the promise of generally abundant copper supplies would indicate a moderate price level for some time.

Situation in Scrap

Now while the study of supply conditions in primary copper are most important, I know that this group is primarily interested in supply and price developments in scrap.

Here, we do not have the facility of reliable statistics such as are available for prime copper. We do know from years of experience that, generally, this country generates enough scrap to provide an ample supply for the four factions which compete for it; namely, the ingot industry, the copper refiners, the brass and wire mills, and the exporters.

High copper prices, also high prices for ferrous scrap accelerate and stimulate production of non-ferrous scrap from all sources; from wrecking and dismantling operations, from obsolescence, and from general scrap collection. This supply diminishes substantially at low prices due to the high increment of labor cost in connection with its collection and preparation.

Complex Developments

During the past six to eight months, we have had the most complex developments both in the flow and in the price of scrap. The longest strike in the history of the copper industry idled practically all but one copper refinery and custom smelters which, through the years, have actively absorbed a steady flow of scrap for processing into primary copper. Large tonnages of scrap and refinery

materials piled up at mills, foundries, industrial plants, and at smelters and dealers. There simply were not sufficient outlets or facilities for treatment and refining despite the acute copper shortage existing at the same time. Sales of copper on the Exchanges where quotations were high, against scrap purchases, were entirely too risky for fear that deliveries could not be made while copper production was virtually at a standstill.

As a consequence, after it became evident that the strikes would be protracted, scrap prices, with the exception of pure copper scrap, declined substantially while virgin copper prices were advancing at the same time into the high premium area. The few refinery buyers having the market practically to themselves aided this scrap price decline by progressively reducing their buying prices to as much as 3 to 6 cents below their normal price relationship to copper.

Ingot Industry

The ingot industry, likewise, was faced with a surplus of melting scrap although not to the same extent as the copper refiners. The steel strike and uncertainty whether steel supplies to be used in conjunction with nonferrous production would be available, resulted in a serious contraction of forward bookings for alloy ingots. Therefore, ingot producers were reluctant to reach for scrap and to build up large inventories. Since the settlement of both the copper and the steel strikes, ingot buying has remained on a hand-to-mouth basis, because of reduced requirements and fear of lower prices. This has created the most demoralized price competition the ingot industry experienced in many years and such conditions, of course, reflect themselves in poor scrap markets as well.

Brass Mill Activity

The brass mill business during the First Quarter has also been depressed partly due to a moderate reduction in general factory production and construction, but also because of an increasing flow of mill products from abroad. Therefore, the mills have not been reaching for scrap which left the market for mill scrap in a depressed state.

While all these strike conditions were plaguing the United States, the copper business was booming abroad and copper was produced at maximum capacity; much of it exported into the United States at high premium prices. All scrap metal which could be used economically and rapidly for conversion into refined copper was so utilized. This conversion of scrap into copper has now created

a pronounced shortage of scrap of all types both in Europe and in the Far East. This scrap deficiency abroad has resulted in a large new demand and outflow of U. S. scrap for export. The latest export figures of the Department of Commerce available now for the month of February, show a total export of 20,616,000 pounds which is by far an all time monthly high and is remarkable when compared with total scrap export during 1959 of 80,288,000 pounds.

Recent Improvement

During the past two weeks, the market for all types of copper base scrap has shown a noticeable improvement. With resumption of operations by the Laurel Hill Refinery of Phelps Dodge, all domestic customs refineries are now in full swing again and they are in a position to sell their copper output both here and abroad. For several months now, they have been gradually working off strike accumulated surpluses. Their unduly depressed and subnormal buying prices attracted no worthwhile supplies and they advanced their prices to create at least a moderate new flow of scrap. At the same time, export competition has forced a raise in prices for ingot makers scrap although the ingot business still is depressed and, therefore, requirements and prices are limited.

These factors, plus the improved tone in the primary copper market tend to correct the abnormal price differentials between new copper and scrap.

Prospects for Future

What price developments will be from here on in the copper and the scrap market, will largely depend on general business developments. If a belated Spring revival in business, especially in building and construction, automotive, and in capital investments, occurs, copper consumption in all phases should improve and give us a period of stability. In the absence of an up-turn in business, it is reasonable to anticipate surpluses and lower prices.

In conclusion, I would say that the best guidance for one's course of action under these unsettled conditions is to scrutinize carefully both general economic developments and copper statistics and to act upon them from the standpoint of logic and reason. The old and tried principles hold true now more than ever; namely, economic progress is built by consistent and constructive effort, brick upon brick, and not by wishful sentiment and gamble.

PROSPECTS OF GLOBAL COPPER SUPPLIES OVERTAKING DEMAND LOOK A LITTLE NEARER TO BRITISH INDUSTRY

Decisions at ITC Meetings Seen Leading to Possible Improvement in Tin; Higher Lead Price Held Likely; Zinc Market Continues on Healthy Basis

May 6, 1960

THE COPPER market has again been a very mixed affair in April. In the first place there is the fundamental contrast between the statistical position in North America and that in Europe and the rest of the world which alone has given rise to a number of apparent anomalies. In the second place, there remains (more particularly in Europe, obviously) a fundamental contrast between the nearby and forward market positions. Copper is still required as urgently today in Europe as at any time this year and spot wirebars, which happen to be available outside the regular suppliers' shipments to consumers, can still command a premium. On the other hand, the prospects for global supplies to overtake demand now look a little nearer than they did one or two months ago, even to the disillusioned eyes of those who have been looking for such a development

U. K. COPPER STATISTICS

U. K. production of refined copper during February showed a gain at 7,785 tons of primary (6,687 tons in January) and 9,127 tons of secondary (8,455 tons), according to the British Bureau of Non-Ferrous Metal Statistics. Stocks of refined copper at the end of February showed a decline from the January figure at 45,134 tons (49,875 tons) as did blister at 10,845 tons (11,213 tons). Of the refined stock consumers held 23,137 tons compared with 23,976 tons a month earlier. Consumption showed a gain in February at 61,587 tons compared with 57,316 tons in January. Details are given below:

Unalloyed Copper Products	Feb. 1960	2 mos. ending February	
		1959	1960
Wire*	24,853	38,279	46,002
Rods, bars and sections	1,670	3,231	3,133
Sheet, strip and plate	4,636	9,107	9,486
Tubes	5,853	10,034	11,629
Castings and misc.	650	1,300	1,300
Alloyed Copper Products			
Wire	1,755	2,834	3,587
Rods, bars and sections	13,641	21,008	26,790
Sheet, strip and plate	10,324	16,056	20,533
Tubes	1,914	3,476	3,623
Castings and misc.	7,149	12,021	14,260
Copper sulphate	1,559	6,796	3,223
Total all products	74,004	124,142	143,566

Copper content of output	61,587	101,272	118,903
Consumption of refined copper†	48,824	75,590	90,565
Consumption of copper and alloy scrap‡ (copper content)	12,763	25,682	28,338

* Consumption of H. C. copper and cadmium copper wire rods for wire and production of wire rods for export.

† Virgin and secondary refined copper.

‡ Consumption of copper in scrap is obtained by the difference between copper content of output and consumption of refined copper, and should be considered over a period since monthly figures of scrap consumption are affected by variations in the amount of work in progress.

By L. H. TARRING
London, England

throughout the past two months.

Effect of the Chilean Strike

One of the curious features of the market, indeed, is the way in which the stoppage at the Anaconda mines in Chile in the first days of May has found the London market strangely unmoved. Ever since the U. S. strikes broke out last year the market here has been basically extremely responsive to any development which might affect material coming directly to Europe and this, of course, means pre-eminently Chile. However, at a time when, on the face of it, the squeeze on supplies is scarcely less tight than at any other time this year the disruption to Chilean production has received scant acknowledgment in cash prices and indeed they have been determinedly turning downwards whenever the opportunity offered. To some experienced market observers, however, this fits in with a sharp flare-up in spot prices witnessed in the middle of April. Although it could be attributed at the time to various specific factors, including the alarmingly low level of London Metal Exchange warehouse stocks, this flare-up is seen by some people as marking the end of strong market sentiment in response to the nearby squeeze and a switch to weaker sentiment in response to the prospective easing in the supply position.

Statement on Noranda

Coming at the psychological moment, too, was Mr. J. R. Bradfield's blunt warning to Noranda shareholders that they must face the possibility of a reduced operating rate at some of the company's mines if over-production became too excessive. Throughout these trying times, the London Metal Exchange, so readily adopted as a scapegoat, has labored under the additional difficulty of the very low level of stocks referred to, which has obviously been accompanied by the demonstrably sensitive spot position and, worse, by a wide

backwardation which makes legitimate hedging operations by consumers extremely difficult, if not impossible. It is not, therefore, surprising that, on the basis of the effects rather than the causes, the anti-Metal Exchange camp has been drawing attention to these unhappy features.

World Tin Meetings

It is not often that the opportunity arises to review two meetings of the International Tin Council in two consecutive monthly reports. On this occasion, however, the meeting to establish the third-quarter quotas and associated routine business was brought forward to the very beginning of May because of the United Nations meeting to consider the new Tin Agreement to run from July 1961, which will be held in New York beginning on May 23rd. At this meeting it was decided to hold the third quarter quota unchanged at 37,500 tons but, as in the second quarter, it is not expected that this will be entirely fulfilled. However, it is of interest that at a Press Conference following the meeting the Chairman of the Tin Council made it clear that it is expected that actual third quarter exports will be 36,300 tons

U. K. TIN STATISTICS

According to the British Bureau of Non-Ferrous Metal Statistics U. K. tin consumption was very slightly up in February at 1,879 tons compared with 1,878 tons in January. Production showed a decline at 2,144 tons (plus 24 tons secondary) compared with the previous month's figure of 2,377 tons (25 tons). Stocks again fell to 10,240 tons against the January figure of 10,884 tons. Details of consumption of primary tin are given below:

	Feb. 1960	2 mos. ending February	
		1959	1960
Tinplate	955	1,550	1,852
Tinning:			
Copper wire	42	102	83
Steel wire	9	17	18
Other	66	129	131
Total	117	248	232
Solder	158	387	365
Alloys:			
Whitemetal	245	510	485
Bronze and gunmetal	205	334	401
Other	40	64	81
Total	490	908	967
Wrought tin*			
Foil and sheets	14	48	42
Collapsible tubes	14	42	47
Pipes, wire and capsules	3	5	6
Total	31	95	95
Chemicals and other uses†	128	195	246
Total all trades	1,879	3,383	3,757

* Includes Compo and 'B' metal.

† Mainly tin oxide and tin compounds.

METALS, MAY, 1960

AVERAGE BRITISH PRICES FOR COPPER, TIN, LEAD, ZINC (Per Long Ton)

Mean of Bid and Asked Cash Quotation at Close of Morning Session on London Metal Exchange

	COPPER			TIN			LEAD			ZINC		
	Cash	3 Months	Settlement	Cash	3 Months	Settlement	Current Month	3rd Following	Current Month	3rd Following	Current Month	3rd Following
1954 Averages	£ s. d. 248 17 11	£ s. d. 239 17 7	£ s. d. 249 0 11	£ s. d. 719 8 11	£ s. d. 709 17 7	£ s. d. 720 6 7	£ s. d. 98 8 12	£ s. d. 94 7 4	£ s. d. 78 5 4	£ s. d. 77 16 11	£ s. d. 78 5 4	£ s. d. 77 16 11
1955 Averages	351 14 11	341 0 3	352 5 6	740 2 12	736 12 11	740 12 8	105 17 3	105 9 6	90 13 4	89 12 3	90 13 4	89 12 3
1956 Averages	328 14 5	324 13 1	329 1 8	787 14 9	774 7 7	788 13 3	116 6 5	114 8 9	97 14 3	95 3 7	97 14 3	95 3 7
1957 Averages	219 8 10	221 0 3	219 12 10	754 15 4	747 10 10	755 3 11	96 12 9	96 13 2	81 11 7	80 1 1	96 12 9	80 1 1
1958 Averages	197 13 3	197 9 3	197 16 11	734 18 6	734 17 11	735 6 1	72 15 8	73 6 10	65 17 12	65 10 12	72 15 8	65 10 12
1959												
January	230 2 0	227 5 10	230 5 0	758 15 6	759 4 9	759 2 10	71 17 0	72 3 3	74 17 8	72 18 8	71 17 0	72 18 8
February	236 4 2	235 10 8	236 7 6	772 9 9	773 9 0	772 15 0	69 19 4	70 16 6	73 13 8	71 19 8	69 19 4	71 19 8
March	248 10 3	247 12 2	248 13 6	779 14 9	783 5 9	780 1 6	69 10 3	71 4 2	75 2 5	73 18 8	69 10 3	73 18 8
April	240 0 5	240 6 6	240 3 5	782 5 3	783 15 5	782 11 4	69 1 0	70 8 4	72 13 9	72 9 2	69 1 0	72 9 2
May	236 4 2	236 11 6	236 6 9	784 4 3	784 10 9	784 10 0	70 16 0	71 13 10	77 7 1	75 17 6	70 16 0	75 17 6
June	230 0 11	230 0 4	230 3 8	788 7 9	789 8 10	788 14 1	69 13 4	71 5 8	78 8 2	77 6 11	69 13 4	77 6 11
July	220 17 6	221 14 9	221 0 8	792 6 6	790 16 4	792 13 6	70 5 0	71 1 2	80 10 7	79 13 4	70 5 0	79 13 4
August	232 16 9	231 9 3	233 0 0	792 15 0	791 18 3	793 4 6	72 3 3	73 3 1	85 5 11	83 19 5	72 3 3	83 19 5
September	230 7 6	230 8 8	230 10 3	792 15 0	792 6 4	793 0 5	70 14 5	72 1 10	86 1 5	84 19 10	70 14 5	84 19 10
October	241 18 5	236 17 5	242 2 11	794 2 9	794 8 2	794 8 2	70 12 5	71 12 2	91 7 4	89 9 2	70 12 5	89 9 2
November	250 11 8	241 7 7	250 18 1	795 7 5	795 14 4	795 13 4	72 2 11	72 7 10	94 18 8	90 3 7	72 2 11	90 3 7
December	255 8 10	239 15 1	255 14 7	789 3 2	785 6 8	789 11 4	72 13 11	72 9 9	95 3 10	90 3 3	72 13 11	90 3 3
1959 Averages	237 13 1	234 15 7	237 16 8	785 7 10	785 10 0	785 14 2	70 15 7	71 13 9	82 4 8	80 5 4	70 15 7	80 5 4
1960												
January	259 5 3	246 8 9	259 12 0	791 7 6	787 11 0	791 14 0	74 15 8	74 10 6	94 11 5	91 14 11	74 15 8	91 14 11
February	263 17 5	245 17 6	264 5 0	792 7 5	790 3 10	792 15 3	73 17 3	73 15 6	88 17 2	88 18 5	73 17 3	88 18 5
March	253 5 4	237 14 10	253 11 4	787 11 0	786 15 0	787 17 10	76 5 4	75 7 4	90 3 2	88 17 12	76 5 4	88 17 12
April	262 2 1	244 15 0	262 8 5	790 11 4	785 5 0	790 18 11	77 10 6	76 11 5	92 8 7	89 15 11	77 10 6	89 15 11

compared with the 35,300 tons which it expected to be actually exported in the second quarter. The improvement is attributable (as indeed is the greatest part of the deficit) to Bolivia.

However, for the market the main point of interest arising out of this meeting was the decision not to renew for the third quarter the authority that has regularly been given for 2½ years past to the Manager of the Buffer Stock, to operate in the middle price range of the Agreement. Even before the meeting it was noticeable that tin prices in London had fluctuated to a greater extent than for some considerable time past owing to the absence of corrective market action by the Buffer Stock Manager. Although his authority to operate holds good for the remainder of the second quarter, some people are already asking whether he

will, in fact, use it. This means that the market no longer needs to consider £800 a ton as a very effective, although never official, ceiling price and the possibility of tin improving in the future is to be taken into consideration.

Situation in Lead

The effects of the continued control of supplies to the market by important free world producers are still working out in the lead market. During April prices have tended to keep in the upper rather than the lower £70's and the general feeling is that lead at or even above £80 a ton may be just around the corner in view of the rigid interpretation of their self imposed restrictions which the producers are making. As with zinc, of course, the whole situation — even an artificial one — stands or falls on the consumption rate and this is nothing to grumble about in most European countries.

In the U. K. it is particularly encouraging to note that some of the recovery is attributable to lead in cable sheathing, an application in which a disastrous amount of ground has been lost in North America in recent years.

Zinc on Healthy Basis

The day-to-day zinc market has continued on quite a healthy basis although without any major fluctuations. Prices seem to have stabilized fairly happily in the lower £90's and if the present basic situation could be maintained indefinitely zinc might be held up as the ideal metal showing statistical strength and price stability without (today) any serious interference with the operation of the free market. All these virtues, of course, spring from the one cardinal virtue in any commodity — a good rate of consumption. This is more marked in Europe than in the U. S. A.

but neither market gives any cause for complaint.

Diecastings here, as in North America, are a particular source of strength to the market although most other outlets are also running at a very good rate. There was some anxiety when a very slight return towards credit restrictions was made in the U. K. as these, of course, would fall on the consumer goods in which zinc diecastings are extensively used. However, the squeeze is very slight and the strength of the market is really quite pronounced and these anxieties seem likely to prove largely academic on the present price basis.

During the month it was revealed that a move was afoot to start trading in the new London Metal Exchange lead and zinc contracts, dis-

U. K. ZINC STATISTICS

Zinc stocks again showed a rise in February at 48,689 tons compared with 48,337 tons in January, according to the British Bureau of Non-Ferrous Metal Statistics. Of this total consumers held 20,356 tons. Production, however, showed a further decline at 5,214 tons against 6,538 tons the previous month. Consumption details are given below:

	Feb. 1960	2 mos. ending Feb. 1959	2 mos. ending Feb. 1960
Brass	10,530	17,512	20,809
Galvanizing	8,030	15,535	15,937
of which:			
General	2,918	5,468	5,764
Sheet	1,947	4,287	3,719
Wire	1,751	3,032	3,596
Tube	1,414	2,748	2,858
Rolled zinc	2,058	4,238	3,950
Zinc oxide	2,239	4,642	4,634
Zinc diecasting and forming alloy	5,552	7,687	11,517
Zinc dust	1,070	1,754	2,294
Miscellaneous uses	1,001	1,797	1,976
Total all trades	30,480	53,165	61,117
of which:			
Slab zinc			
High purity (99.99%)	6,110	8,391	12,654
Electrolytic and high grade (99.95%)	5,855	9,915	11,670
G.O.B. Prime Western and debased	11,125	19,699	21,712
Other virgin material	216	391	439
Remelted zinc	534	953	1,212
Scrap — zinc (content)			
Zinc metal, alloys and residues	2,567	5,383	5,440
Brass and other copper alloys	4,073	8,433	7,990

U. K. LEAD STATISTICS
According to the British Bureau of Non-Ferrous Metal Statistics stocks of lead during February fell to 42,043 tons (34,512 tons imported and 7,531 tons English refined) compared with 44,290 tons the previous month (36,470 tons and 7,820 tons). Production also declined to 7,253 tons against the January figure of 7,729 tons. Full consumption details are given below:

	Feb. 1960	2 mos. ending Feb. 1959	2 mos. ending Feb. 1960
Cables	7,963	16,280	16,742
Batteries — as metal	3,276	4,683	6,538
Battery oxides	2,688	4,248	5,558
Tetraethyl lead	1,691	3,646	3,655
Other oxides and compounds	2,147	4,248	4,821
White lead	721	1,319	1,465
Shot	446	667	875
Sheet and pipe	5,830	10,602	11,768
Foil and collapsible tubes	383	533	774
Other rolled and extruded	611	977	1,188
Solder	1,483	2,257	2,798
Alloys	1,756	3,145	3,288
Miscellaneous uses	1,246	2,235	2,516
Total consumption	30,241	54,840	61,986
of which:			
Imported virgin lead	14,967	27,982	31,144
English refined	6,944	11,231	14,102
Scrap including remelted	8,330	15,627	16,740

METALS, MAY, 1960

COPPER POT KEPT NEAR BOILING POINT BY THREAT OF CHILEAN STRIKE, INTERNATIONAL DEVELOPMENTS

U. S. Producers, Smelters Hold Price at 33c; Lead Firm at 12c; Zinc Quiet But Steady at 13c; Tin Higher; Aluminum Unchanged; Tellurium Up 50c a Lb.

May 19, 1960
AS usual, there were enough ingredients to keep the copper market pot close to a boil during the month in review. Among the developments affecting the always sensitive copper situation were a labor dispute in Chile, unrest in the Belgian Congo and uncertainty over the general international situation following the volcanic eruption at the Summit Meeting in Paris. These factors, plus strong Continental demand, served to hold copper prices, for both producers and custom smelters, at the 3.00c level. Lead purchasing demand showed some improvement, with the price firm at 12.00c New York but zinc was rather quiet, with Prime Western grade steady at 13.00c East St. Louis. Among the other major metals, aluminum was steady while tin was slightly firmer.

Chilean Sympathy Strike

A 24-hour stoppage, at this writing, has been called for May 23 by the Chilean Confederation of Copper Workers in sympathy with the strike (which started May 1) at two of Anaconda's Chilean properties — El Salvador and Potrerillos. The Confederation also called for an indefinite sympathy strike to start May 26, unless the strike at El Salvador and Potrerillos is settled by then. The strike so far, are the El Salvador mine and Potrerillos smelter (involving 7,000 tons of copper a month) has been fairly well taken in stride. But if the strike becomes a general one and involves other Chilean copper properties — including Anaconda's Chuquicamata and Kennecott's El Teniente — it would become much more serious. Chile produces close to 48,000 tons of copper a month. For the first four months of this year, Chile's copper production totaled 172,015 metric tons, an increase of 13,347 tons over the same period last year.

The union contract at Chuquicamata expires on September 30 and the contract at El Teniente ends on December 31, 1960.

On the surface, things at the moment look peaceful in Northern Rhodesia, but any flare up in the Union

of South Africa or in the Belgian Congo could have its impact on the Copperbelt. The Belgian Congo receives its independence on June 30. Some quarters feel that things may get out-of-hand in the Congo during the independence celebration.

Domestic Situation Quiet

Although the London Metal Exchange and the New York Commodity Exchange reacted to developments in foreign producing areas and also to the international turmoil created at the Summit Meeting in Paris, domestic copper consumers apparently are not too concerned. With brass mills operating three to four days a week, few of them find themselves in need of any large tonnages of copper. Some mills are carrying an inventory that will enable them to stay out of the market for several weeks. On the other hand there has been no pressure to sell either on the part of producers or custom smelters. The former continued to price their shipments at 33.00c a pound delivered, and the latter, while adhering to 33.00c, were willing to book orders at the monthly average price.

Custom smelters, on May 19, were paying for scrap copper on the basis of 24.25c a pound for heavy copper and wire.

Several fabricators, including Bridgeport Brass, Phelps Dodge Copper Products Corp., and the Lewin Mathes Co. division of Cerro de Pasco Corp., announced that on May 23 they will discontinue special quantity discounts on copper water tube, threadless copper pipe and red brass and copper pipe in quantities of 5,000 and 10,000 feet or pounds, or more. In the past, discounts of 2½ per cent on orders of 5,000 to 10,000 feet or pounds, and of 5 per cent on orders of 10,000 feet or pounds and more, had been granted. Bridgeport also stated that it will not extend special quantity discounts on municipal inquiries because this change will reflect an increase. Bridgeport said that it has made no change in its copper alloy wire price schedule.

April Copper Statistics

April copper statistics showed the following: a fine balance between

world crude production and apparent consumption; an increase of about 9,000 tons in world refined stocks. U. S. refined copper figures for April follow in tons, with the March totals in parentheses: production, 153,053 (131,308); deliveries to fabricators, 129,663 (126,776); stocks at end of month, 63,373 (61,598).

World (combined domestic and foreign) copper statistics for April follow in tons, with the March totals in parentheses: crude production, primary and secondary, 318,114 (319,262); refined production, 326,591 (303,503); deliveries to customers, 318,647 (307,572); refined stocks end of month, 309,935 (300,790).

Speculate on Curtailments

Over the long-range, the consensus of some industry observers is that a copper surplus will develop. Clyde E. Weed, Anaconda Company chairman, told the company's annual meeting on May 18 of the prospect of excess world production of copper development shortly and the possible need of curtailment of output. Somewhat surprising to observers were the recent disclosures that Phelps Dodge and the Rhodesian Selection Trust group of mines are operating at the same reduced production rates in effect at the time of the strike in the U. S. mining industry.

In July, 1959, P. D. announced a cut in its production schedule of 7 per cent. Following that announcement, RST put a 10 per cent production cutback in effect.

More recently, Sir Ronald L. Prain, RST chairman, stated that if the expectation of a copper surplus is in fact realized, it may be necessary later this year for the RST to consider some further curtailment of production. Robert P. Koenig, Cerro de Pasco Corp. president, has stated that those responsible for setting the levels of production "should act with restraint" in view of the overcapacity to produce most products. Noranda Mines, Ltd., also plans to reduce copper production "if output continues to be excessive," according to John R. Bradfield, president.

Lead producers have been satisfied

of late with the volume of business that they have been booking. Current orders have been mainly for June shipment at the spot price of 12.00c New York and at 11.80c St. Louis.

Part of the pickup in demand can be attributed to the strike of lead and zinc workers at Bunker Hill Co.'s Kellogg, Idaho, operations, on May 5. Some 1,800 members of local 18 of the International Union of Mine, Mill and Smelter Workers union walked off their jobs. Mine-Mill members had been working although their contract had expired last June 30. In 1959 Bunker Hill mined 41,745 tons of lead and 32,897 tons of zinc. Last year the company's smelter produced 94,084 tons of lead and its electrolytic plant produced 61,191 tons of Special High Grade zinc.

A Federal mediator also stated "there is a definite threat of a strike" at American Smelting & Refining Co.'s Wallace, Idaho, lead and zinc facility where management and the union so far have been unable to agree on terms of a new contract. Asarco employs about 400 members of Local 18, Mine-Mill, at Wallace. Workers there also have continued to work although their contracts had expired on June 30, 1959.

Lead Statistics

Domestic refined lead shipments in March increased to the highest level since last June while stocks dropped to the lowest point in more than two years. U. S. refined lead shipments in March totaled 44,076 tons, as against 37,599 tons in February, and 75,465 tons in June, 1959, when shipments expanded sharply because of the strike threat. Refined output in March rose to 37,192 tons from 36,435 tons in the preceding month. Refined lead stocks totaled 109,148 tons at the end of March, a dip of 7,121 tons from the 116,269 tons carried at the end of February.

Zinc Buyers Hesitant

Zinc consumers have been buying sparingly. With their own business tapering off, their zinc inventory can be reduced proportionately, especially in view of the fact that no increase in price is likely, at least not until there has been a substantial reduction in stocks.

The independent producers of zinc die casting alloys have virtually withdrawn from the market ever since alloy prices were reduced 0.25c a pound, on May 16, by leading producers. The No. 3 grade alloy is now quoted at 16.25c a pound, delivered, in 40,000-pound and over lots. It is the intention of the smaller producers that when the spread between

Special High Grade zinc and the No. 3 alloy is only 1.50c a pound, as it is now, there is little or no margin of profit left for them. The spread had been 2.00c a pound but it was reduced to 1.75c when the premium for SHG above Prime Western was raised by 0.25c to 14.75c a pound, on April 1. Efforts to widen the spread by getting SHG at a discount have thus far proved unsuccessful. Prime Western zinc was firmly maintained at 13.00c a pound East St. Louis.

Earlier, on May 16, the American Smelting and Refining Co. discontinued charging for strapping slab zinc in standard bundles. Previously, the practice had been to make a nominal charge of about 50.00c a ton for such strapping. While several large consumers hailed the action by Asarco as a progressive step in modern merchandising, some zinc producers were critical of the removal of the strapping charge, contending that it will only serve to whittle down profits, which they claim, are none too large. Some producers indicated they have no alternative but to follow suit.

April Zinc Statistics

The zinc statistics for April generally were regarded as disappointing. Shipments to domestic consumers were down about 16,500 tons, to the lowest level since October, 1959, while stocks shot up more than 11,000 tons to the highest that they have been since last December.

April statistics for all grades of zinc follow in tons, with the March totals in parentheses: production, 83,221 (86,028); shipments to domestic consumers, 64,251 (80,760); stocks at end of month, 147,861 (136,566).

Aluminum Prospects

The growth of the aluminum industry in the past has been almost legendary. Frank L. Magee, Aluminum Co. of America president, recently told the National Federation of Financial Analysts' Societies, and as "we enter a new decade, there is no reason for believing this pattern will change."

The Alcoa president noted that high inventories of aluminum, accumulated last year in anticipation of both a strike (which did not develop) and a price increase (effective last December), adversely affected sales during the first five months of 1960. Nevertheless, Mr. Magee said, none of the basic aluminum producers have any great concern about over-supply from a long-term standard, even though a current excess of productive capacity and intense competition are presently having an unfavorable effect on prices and profits.

Tin Prices Higher

Tin prices moved upward during the month in review. The spot Straits prices at New York on May 19 was 99.62½c a pound, as against the last previous quotation in this space of 99.12½c for April 14. For the April 14-May 19 period, the high of 99.87½c was registered on May 17 and 18, with the low of 98.87½c recorded on April 20 and 21, and on May 2. The large domestic tin consumers generally were withdrawn from the market.

Minor Metals

Prices for minor metals, except tellurium, held fairly steady during the month in review. Platinum held at \$81 to \$85 an ounce, which range was established on February 17. The New York silver price was maintained at 91.37½c an ounce, which level was established on September 3, 1959. Quicksilver was unchanged at \$213 to \$215 per flask of 76 pounds, this range having been established on February 17. There were reports of price shading for quicksilver but market factors generally indicated that there has been no real price test recently because of the lack of domestic demand.

The American Smelting and Refining Co. on May 16 increased its price of commercial grade tellurium to \$3.50 a pound in quantity lots, a rise of 50.00c a pound over the previous quotation of \$3 a pound established on January 4 this year.

British Metal Markets

(Continued from Page 13)

cussed in our last report, on July 1st. Apart from the fact that this has seemed like undue haste in putting forward a trading method which was after all approved by only a rather narrow majority, the very practical objection has also been raised that the change over from one contract to the other may well cause a technical shift in the level of prices on the London Metal Exchange and that such a shift would be an unforeseen handicap in the operation of the long term ore buying pricing contracts which relate to L.M.E. quotations. It is hoped that the dealer mentality will not obscure the fact that the London Metal Exchange prices are widely used in commerce and that some consideration for "the customer" will be shown in deferring introduction of the new contracts until the beginning of the year when the ore contracts are normally renewed.

(Continued from Page 9)

sonable floor price equally as well as agreements of the restrictive type. It would have more chance of restraining an undue upward movement of price during a period of shortage, because prices would be no longer subject to the daily bidding characteristic of the Metal Exchange. It may well be the answer to periodic attempts by communist countries to disturb metal prices in Western countries.

World Tin Agreement

Advocates of the International Tin Agreement are unlikely to approve of such a world marketing organization. The Tin Agreement supports high-cost production which would meet with strong competition under the world marketing organization. If a shortage of Free World tin production is approaching, as seems probable, then perhaps this may be held out as a reason for the continuation of the International Tin Agreement — anyway, we must accept that it will be continued.

The present Tin Agreement will terminate in mid-1961, and a U.N. conference is to be called in May, 1960, to amend the Agreement and to recommend its renewal by the interested countries. Revision of the wording of the Agreement has been under consideration by the Tin Council.

It is suggested that both the preamble and the objectives of the Agreement could be re-stated more realistically. Operation of the Agreement has indicated the necessity for amendments to several of the articles. But, basically, the Agreement was designed to operate in a period of surplus capacity. During the next 5-year term a wholly different picture of tighter supply may begin to emerge in the Free World. With this in mind not only should further attention be given to Article XIII, which relates to shortages, but also the whole tenor of the Agreement should be re-cast to give full support to the development of new production. The basis of export quotas should as far as possible, be related to current production capacity rather than to historic statistics of production over a previous period of years although some adjustments have been made by negotiation.

The functioning of the Buffer Stock is dependent on the continua-

tion of cash dealings on the London Metal Exchange. If the operations of the London Metal Exchange were to be restricted to futures dealings only, as proposed in this concluding section, then the Buffer Stock must find another basis on which to operate. For example, the Tin Council could itself become a marketing organization to decide prices. Alternatively, the L.M.E. could continue to deal in cash tin alone.

In Conclusion

In conclusion, it may be remarked that, to one who has been a life-long supporter of open competitive marketing, the above proposals have been put forward without enthusiasm, but under the recognition that changing influences must be met by a revision of traditional methods of marketing. At least the marketing organization suggested is to be preferred to restrictive forms of intergovernmental agreements; it would be administered by the industry itself, and by men who really know its problems.

One's sympathies in these matters are with the editors of the Metal Bulletin, in their deeply felt protestation in the issue of November 20, 1959: "... the editors of Metal Bulletin are continually being approached by professors, soi-disant economists and others who wish to be informed from A to Z about the mining, smelting and marketing of metals. They usually state that when they are fully posted they propose to draw up a plan to control the metal markets, of which they are obviously so far to all ignorant but which they believe could be restored to health once they have brought their 'brains' to bear. Why they don't choose other commodities like soap, beer, or even cement is a mystery to us — for some reason metals attract these cranks like a red flag attracts a bull."

It is freely admitted that this discussion has been pursued almost entirely from the point of view of the producer rather than of the consumer of raw materials. The producers' problems are not only the greater, but also they are the vital obstacles to stability. However, it is believed that the objectives of knowledgeable producers and consumers must ultimately be the same — the steady supply of metal at reasonable prices.

(Continued from Page 4)

require the Secretary of Interior to make an annual report to Congress on the state of the domestic mining industry including recommendations for any legislation required to assist the industry.

The Interior Department and the Bureau of the Budget have approved the proposed legislation with certain reservations. The bill declares that it is in the national interest to encourage development of domestic mineral resources and reserves "necessary to" assure satisfaction of industrial and security needs. Both agencies recommended that the reference read "the orderly development of domestic mineral resources and reserves which contribute to a satisfaction of industrial and security needs."

See Stockpile Revision

Official sources have forecast eventual revision of U. S. legislation covering stockpiling of strategic and critical materials and Government inventories. This was disclosed in a U. S. reply to a United Nations questionnaire sent by Secretary General Hammarskjöld to member countries on behalf of the Commission on International Commodity Trade.

In its extended reply, the U. S. said the objective of such revision would be "to bring all Government stocks of non-agricultural material within one statutory framework," and to simplify their management and disposal. The U. S. reply noted that "experience has shown that it is advantageous to be legally free to dispose of excess stocks without the prolonged delay and procedural formalities which are now mandatory for stockpiled materials." The reply continued:

"Otherwise, disposal cannot always be timed to coincide with the most favorable market opportunities. Any revision of the disposal safeguards of the present law would be directed toward attaining more flexibility in this respect, while preserving the principle of avoiding undue disruption of markets and giving adequate advance notice."

Value of Stockpiles

The cost value of materials in nine federal stockpile inventories as reported by the Department of Agriculture, General Services Administration and the Office of Civil and Defense Mobilization, on March 31, 1960, totaled \$15,603,074,000.

Daily Metal Quotations for April, 1960

The following quotations are taken from the Daily Metal Reporter*
(In Cents Per Pound)

APRIL	Copper			Tin		Lead		Zinc			Alumi- num	Anti- mony	Silver			
	Producers' Price Delivered	Custom Smelters' Price, Del.	Electro Refinery f. o. b.	Lake Del.	Aver. Prompt Electrolytic Export Price F. a. s. N. Y.	Spot Straits New York	Prompt New York	Outside St. Louis	Prime West. f. o. b. E. St. Louis	Prime West. Del. N. Y.	Brass Spec. f. o. b. E. St. Louis	High Grade Delivered	Spec. High Grade Delivered	30-Lb. Ingot 99 1/2% Plus f. o. b.	Domestic Spot 99.5% f. o. b. Laredo	(Cents Per Ounce) New York
1	33.00	33.00	32.60	33.00	31.00	99.625	99.625	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
4	33.00	33.00	32.60	33.00	31.00	99.625	99.625	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
5	33.00	33.00	32.60	33.00	31.00	99.50	99.50	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
6	33.00	33.00	32.60	33.00	31.25	99.50	99.50	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
7	33.00	33.00	32.60	33.00	31.50	99.50	99.50	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
8	33.00	33.00	32.60	33.00	31.75	99.50	99.50	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
11	33.00	33.00	32.60	33.00	31.75	99.375	99.375	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
12	33.00	33.00	32.60	33.00	31.75	99.125	99.125	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
13	33.00	33.00	32.60	33.00	31.75	99.125	99.125	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
14	33.00	33.00	32.60	33.00	31.75	99.125	99.125	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
18	33.00	33.00	32.60	33.00	31.75	99.00	99.00	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
19	33.00	33.00	32.60	33.00	31.75	99.00	99.00	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
20	33.00	33.00	32.60	33.00	31.75	98.875	98.875	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
21	33.00	33.00	32.60	33.00	32.375	98.875	98.875	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
22	33.00	33.00	32.60	33.00	32.375	99.125	99.125	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
25	33.00	33.00	32.60	33.00	33.375	99.25	99.25	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
26	33.00	33.00	32.60	33.00	33.375	99.25	99.25	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
27	33.00	33.00	32.60	33.00	32.50	99.25	99.25	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
28	33.00	33.00	32.60	33.00	32.50	99.25	99.25	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
29	33.00	33.00	32.60	33.00	32.50	99.125	99.125	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
AV.	33.00	33.00	32.60	33.00	31.938	99.25	99.25	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
HI.	33.00	33.00	32.60	33.00	33.75	99.625	99.625	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375
LO.	33.00	33.00	32.60	33.00	31.00	98.875	98.875	12.00	11.80	13.00	13.50	14.50	14.75	28.10	29.00	91.375

* When split quotations prevail the daily average price is listed. The high and low for the month take into consideration the levels reached at both sides of such ranges.

United States Duties on Principal Ore and Metal Imports

(Including Revisions in Effect June 30, 1957, Under Geneva Agreements)

(Quantities Are in Pounds Unless Otherwise Stated; n.s.p.f. Stands for "Not Specially Provided For.")

COPPER

NOTE — The excise tax of 4c a pound on copper (which was reduced to 2c a pound by the Geneva Trade Agreement) was suspended in April, 1947, until March 31, 1949, and on expiration it was further suspended until June 30, 1950. The tax was reimposed on July 1, 1950. It was suspended again on May 22, 1951, retroactive to April 1, 1951, and until February 15, 1953, and again until June 30, 1954. Suspension further extended to June 30, 1955, and again until June 30, 1958. The tax was restored July 1, 1958. The 1956 Geneva Agreement provided for 5% reductions effective on June 30 of 1956, 1957 and 1958, provided the prices were above 24c; if the price is below 24c the 2c tax will prevail.

Copper ore and concentrates, usable as flux, etc., having a copper content of not more than 15% and in an aggregate amount not to exceed in any one year 15,000 tons of copper content	free
Copper ore and concentrates, product of Cuba, copper content	free
Copper ore and concentrates, product of Philippines, copper content	0.17c lb.
Copper ore and concentrates, copper content	1.70c lb.
Regulus, black, or coarse copper, and cement copper, copper content	1.70c lb.
Unrefined black, blister, and converter copper in pigs or converter bars, copper content	1.70c lb.
Refined copper in ingots, plates or bars, copper content	1.70c lb.
Copper rolls, rods or sheets	1 1/4c lb. (plus 1.70c lb. ††)
Copper seamless tubes and tubing	3 1/2c lb. (plus 1.70c lb. ††)
Copper plain wire	12 1/2c lb. (plus 1.70c lb. ††)
Copper brazed tubes†	4.50c lb. (plus 1.70c lb. ††)
Old and scrap copper, fit only for remanufacture: and scale and clippings, copper content	1.70c lb.

†† Copper content.

BRASS

Brass rods, sheets, plates, bars, strips, Muntz or yellow metal sheets, sheathing, bolts, piston rods, shafting and bronze rods, tubes and sheets	2c lb.
Brass tubes and tubing, seamless	2c lb.
Brass tubes, brazed, angles and channels	6c lb.
Brass and bronze wire	12 1/2c lb.

LEAD

NOTE — Import duties on lead-bearing ores, flue dust, and mattes of all kinds, lead bullion or base bullion, lead in pigs and bars, lead dross, reclaimed lead and antimonial lead were suspended February 12, 1952, and reimposed on June 28, 1952. Lead scrap duty was reimposed July 1, 1952.

Lead-bearing ores and mattes, n. s. p. f., lead content	3/4c lb.
Bullion or base bullion, lead content	1 1/16c lb.
Pigs and bars, lead content	1 1/16c lb.
Reclaimed, scrap, dross, lead content	1 1/16c lb.
Babbitt metal and solder, lead content	1 1/16c lb.
Pipe, sheets, shot, glaziers' lead, and wire	5 1/16c lb.
Type metal and antimonial lead, lead content	1 1/16c lb.
White lead	1.05c lb.
Litharge	1 1/4c lb.
Red lead	15 1/16c lb.
Orange mineral	1c lb.

ZINC

NOTE — Import duties on zinc-bearing ores, and on zinc in blocks, pigs and slabs were suspended February 12, 1952, and reimposed on July 24, 1952. Tax on old zinc and dross and skimmings reimposed July 1, 1953.

Zinc-bearing ores, except pyrites containing not more than 3% zinc, zinc content	6/10c lb.
Zinc contained in zinc-bearing ores, n. e. s., not recoverable, zinc content	6/10c lb.
Zinc, old and worn out, fit only for remanufacture	3/4c lb.
Dross and skimmings	3/4c lb.
Zinc in blocks, pigs or slabs	7/10c lb.
Zinc in sheets	1c lb.
Zinc sheets, plated with nickel or other base metal, or solutions	1 1/2c lb.

Zinc dust	7/10c lb.
Zinc die-casting alloys	12 1/2%
Zinc oxide and leaded zinc oxides containing not more than 25% lead, dry	3/5c lb.
ground in or mixed with oil or water	1c lb.

MISCELLANEOUS METALS AND ORES

Aluminum, metal and alloys, crude, except alloys elsewhere provided for†	1.25c lb.
Aluminum scrap	free
Aluminum plates, sheets, bars, rods, circles, squares, etc.†	2.50c lb.
Antimony ore, antimony content	free
Antimony metal and regulus	2c lb.
Antimony needle or liquidated	1/4c lb.
Antimony oxide	1c lb.
Antimony sulphides	1/2c lb. & 12 1/2%
Arsenic, metallic†	2.50c lb.
Arsenious acid or white arsenic	free
Bauxite, crude*	free
Bauxite, refined**	1/4c lb.
Bismuth	1 1/2%
Bismuth salts and compounds	35%
Beryllium metal†	21%
Beryllium ore	free
Cadmium	3 3/4c lb.
Cadmium flue dust, cadmium content	free
Chrome ore or chromite	free
Chrome or chromium metal†	10 1/4%
Cobalt metal	free
Cobalt ore and concentrates, cobalt content	free
Magnesium, metallic†	50%
Magnesium powder, sheets, wire†	17c lb. & 8 1/2%
Magnesium alloys	20c lb. & 10%
Magnesium scrap	free
Manganese ores, containing over 10% manganese, manganese content	1/4c lb., except Cuba, free
Molybdenum ore or concentrates, molybdenum content†	30c lb.
Nickel ore, matte and oxide	free
Nickel and alloys, nickel chief value, n. s. p. f., in pigs, ingots, shot, cubes, grains, cathodes, or similar forms	1 1/4c lb.
Nickel, bars, rods, plates, sheets, castings, strips, wire or electrodes	12 1/2%
Nickel scrap	free
Nickel tubes, tubing	6 1/4%
(if cold rolled, drawn or worked — 2 1/2% extra)	
Platinum, grain, nuggets, sponge and scrap, oz. troy	free
Platinum in ingots, bars, sheets, or plates, not less than 1/8 in. thick, oz. troy	free
Platinum, ores, platinum content, oz. troy	free
Quicksilver or mercury	25c lb.
Selenium and salts	free
Tantalum	12 1/2%
Tin ore, cassiterite, and black oxide of tin, tin content	free
Tin in bars, blocks, pigs, grain, granulated, and scrap, and alloys, chief value tin, n. s. p. f.	free
Tungsten ore or concentrates, tungsten content	50c lb.

*Crude bauxite import duty suspended through July 15, 1960. **Under Public Law 25 alumina imported for use in aluminum production is free for entries from July 17, 1956 through July 15, 1960. †Tariff reduced 5% on June 30, 1958, under Geneva Agreement which expires on June 30, 1959.

Copper Statistics Reported by Copper Institute

Combined Totals in U. S. A. and Outside U. S. A.

	Crude Production		(In tons of 2,000 pounds)			Stock Increases or Decreases		
	Primary	Secondary	Refined Production	Deliveries to Customers	End of Period	Blister	Refined	Total
1957								
Total	2,897,719	123,270	3,035,588	2,853,307	458,340	-14,599	+103,920	+89,321
1958								
Total	2,713,412	138,696	2,811,108	2,918,404	262,544	+41,000	-195,796	-154,796
1959								
July	256,729	9,198	274,752	230,524	390,168	-8,825	+44,739	+35,914
August	232,944	4,552	223,452	237,944	378,649	+11,543	-11,519	+24
September	186,837	7,652	187,294	232,282	354,926	+7,195	-23,723	-16,528
				(Oct. 1)	356,614			
October	184,409	10,955	181,707	210,945	330,438	+13,657	-26,176	-12,519
November	192,353	10,631	186,496	229,281	311,049	+16,388	-19,389	-3,001
December	211,575	9,767	203,614	238,095	293,006	+17,728	-18,043	-315
Total	2,860,454	134,583	2,926,657	2,973,026	293,006	+68,380	+28,774	+97,154
1960								
January**	259,779	13,116	257,614	272,040	304,038	+15,278	-3,426	+11,852
February	271,765	14,578	269,952	280,656	302,351	+16,391	-1,687	+14,704
March	307,064	12,198	303,503	307,572	300,790	+15,759	-1,561	+14,198
April	301,198	16,916	326,591	318,647	309,935	-8,477	+9,145	+668

**Starting with January, 1960, the figures reflect reports from four additional companies.

In U. S. A.

1957								
Total	1,116,380	112,060	1,616,964	1,277,946	181,024	.....	+60,379	.....
1958								
Total	1,008,170	131,294	1,446,540	1,179,416	80,722	.....	-100,302	.....
1959								
July	81,662	8,323	134,020	108,127	103,432	.....	+17,558	.....
August	51,327	3,994	83,677	90,123	94,109	.....	-9,323	.....
September	19,503	6,578	44,468	92,501	79,826	.....	-14,283	.....
				(Oct. 1)	81,514			
October	20,931	9,861	44,218	68,648	78,308	.....	-3,206	.....
November	18,351	9,710	37,299	83,626	74,642	.....	-3,666	.....
December	26,686	8,595	46,302	90,039	64,763	.....	-9,879	.....
Total	805,875	121,462	1,221,612	1,312,328	64,763	.....	-17,647	.....
1960								
January	65,677	10,707	86,491	102,829	68,550	.....	+3,787	.....
February	85,899	12,628	105,417	111,851	64,007	.....	-4,543	.....
March	107,514	9,166	131,308	126,776	61,598	.....	-2,409	.....
April	104,010	14,840	153,053	129,663	63,373	.....	+1,775	.....

Outside U. S. A.*

1957								
Total	1,781,339	11,210	1,418,624	1,575,361	277,316	.....	+43,541	.....
1958								
Total	1,705,242	7,402	1,364,568	1,738,988	181,822	.....	-95,494	.....
1959								
July	175,067	875	140,732	122,397	286,736	.....	+26,981	.....
August	181,617	558	142,276	147,821	284,540	.....	-2,196	.....
September	167,334	1,074	142,646	139,781	275,100	.....	-9,440	.....
October	163,478	1,093	137,489	142,297	252,130	.....	-22,970	.....
November	173,902	921	149,197	145,655	236,407	.....	-15,723	.....
December	184,889	1,172	157,312	148,056	228,243	.....	-8,164	.....
Total	2,054,579	13,121	1,705,045	1,660,698	228,243	.....	+46,421	.....
1960								
January**	194,099	2,409	171,123	169,211	235,488	.....	-7,213	.....
February	185,866	1,950	164,535	168,805	238,344	.....	+2,856	.....
March	199,550	3,023	172,145	180,796	239,192	.....	+848	.....
April	197,188	2,076	173,538	188,984	246,562	.....	+7,370	.....

*Excluding Russia, Yugoslavia, Norway, Sweden, Japan and Australia.

**Starting with January, 1960, the figures reflect reports from four additional companies.

Electrolytic Copper

	Producers' Price, Del. Valley			
	Monthly Average Prices			
	(Cents Per Pound)			
	1957	1958	1959	1960
Jan.	36.00	25.69	29.00	33.00
Feb.	33.318	25.00	29.972	33.00
Mar.	32.00	25.00	31.14	33.00
Apr.	32.00	25.00	31.50	33.00
May	32.00	25.00	31.50	...
June	30.955	25.36	31.50	...
July	29.25	26.125	30.587	...
Aug.	28.639	26.50	30.00	...
Sept.	27.031	26.50	30.571	...
Oct.	27.00	27.548	30.75	...
Nov.	27.00	29.00	32.375	...
Dec.	27.00	29.00	33.00	...
Aver.	30.183	26.31	30.991	...

Electrolytic Copper

	Custom Smelters' Price, Del. Valley			
	Monthly Average Prices			
	(Cents Per Pound)			
	1957	1958	1959	1960
Jan.	34.87	24.577	29.429	35.00
Feb.	32.273	23.557	30.361	35.00
Mar.	30.952	23.326	33.31	33.609
Apr.	31.24	23.66	32.84	33.00
May	30.163	23.865	32.00	...
June	29.60	25.52	31.477	...
July	28.39	29.231	29.52	...
Aug.	27.862	26.52	30.056	...
Sept.	25.948	26.355	33.00	...
Oct.	25.722	28.577	33.00	...
Nov.	25.435	29.829	Nom.	...
Dec.	25.26	28.846	35.00	...
Aver.	28.93	25.905	31.808	...

Lake Copper

	Producers' Price Delivered			
	Monthly Average Prices			
	(Cents Per Pound)			
	1957	1958	1959	1960
Jan.	36.00	25.69	29.00	33.00
Feb.	33.182	25.00	30.00	33.00
Mar.	32.00	25.00	31.14	33.00
Apr.	32.00	25.00	31.50	32.60
May	32.00	25.00	31.50	...
June	30.955	25.00	31.50	...
July	29.25	25.75	30.587	...
Aug.	28.611	26.50	30.00	...
Sept.	27.00	26.50	31.107	...
Oct.	27.00	27.577	31.50	...
Nov.	27.00	29.00	32.833	...
Dec.	27.00	29.00	33.00	...
Aver.	30.162	26.251	31.222	...

METALS, MAY, 1960

Fabricators' Copper Statistics

(In tons of 2,000 pounds)

	Fabricators' Stocks of Refined Cop.	Unfilled Purchases of Refined by Fab. from Producers	Fabricators' Working Stocks	Unfilled Sales by Fabricators to Customers	Actual Copper Consumed by Fabricators	Excess Fabricators' Stocks Over Orders Bkd.
1954						
Total	360,526	58,125	304,619	136,581	1,231,840	— 22,549
1955						
Total	.....	.....	.....	.....	1,418,241	.....
1956						
Total	.....	.....	.....	.....	1,416,378	.....
1957						
Aug.	429,627	82,768	344,315	144,375	110,323	+ 23,826
Sept.	425,168	80,436	344,530	144,538	106,927	+ 16,536
Oct.	420,130	80,774	341,869	138,420	119,161	+ 20,615
Nov.	428,520	68,249	345,832	128,719	98,725	+ 22,218
Dec.	430,171	75,627	347,465	138,631	83,067	+ 19,702
Total	.....	.....	.....	.....	1,279,086	.....
1958						
Jan.	445,514	57,917	348,426	123,756	94,642	+ 31,249
Feb.	452,673	52,342	351,035	128,330	86,625	+ 25,650
Mar.	448,125	71,693	346,875	141,387	83,694	+ 31,556
Apr.	450,442	76,602	347,607	145,623	79,613	+ 33,814
May	441,001	78,194	346,404	138,190	88,447	+ 34,601
June	433,526	72,383	330,301	145,162	109,011	+ 30,448
July	431,796	77,362	326,263	153,529	79,353	+ 29,366
Aug.	421,931	78,194	323,667	150,436	96,717	+ 26,022
Sept.	416,887	71,025	319,281	145,390	105,474	+ 28,941
Oct.	399,113	91,019	315,929	156,692	138,017	+ 17,511
Nov.	419,914	88,580	328,238	157,799	110,487	+ 22,457
Dec.	447,123	90,401	326,438	177,869	92,573	+ 35,217
Total	.....	.....	.....	.....	1,165,364	.....
1959						
Jan.	457,387	101,182	337,761	172,698	108,556	+ 44,070
Feb.	459,046	123,321	390,522	183,113	116,565	+ 58,732
Mar.	449,441	130,785	334,904	211,547	133,259	+ 33,775
Apr.	463,582	125,250	337,282	204,618	120,680	+ 46,932
May	474,657	133,694	338,835	210,424	124,060	+ 59,092
June	492,072	111,229	343,585	191,875	133,702	+ 67,841
July	518,699	110,367	357,474	193,338	81,500	+ 68,254
Aug.	487,259	97,786	359,049	191,476	121,563	+ 34,520
Sept.	462,880	111,675	360,760	206,254	116,880	+ 7,541
Oct.	431,612	119,806	347,136	211,359	100,302	+ 7,077
Nov.	412,401	127,162	338,856	224,442	102,837	+ 23,735
Dec.	414,757	130,324	340,349	202,775	88,706	+ 1,957
Total	.....	.....	.....	.....	1,347,610	.....
1960						
Jan.	414,652	141,860	340,233	193,300	102,295	+ 22,979
Feb.	423,131	132,696	343,196	165,991	103,072	+ 46,640
Mar.	441,026	119,963	348,081	134,461	108,881	+ 78,447
Apr.	457,070	99,814	357,711	111,062	113,619	+ 88,111

Scrap Copper Receipts by Custom Smelters and Refineries in United States*

(In Short Tons)

	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Jan.	6,640	4,528	6,486	9,859	11,047	14,322	17,506	16,024	14,511	15,165
Feb.	5,153	3,633	10,337	8,490	15,194	14,497	11,145	9,518	14,712	14,614
Mar.	7,912	5,243	19,991	9,738	12,198	15,921	13,934	11,783	19,522	11,676
Apr.	8,553	6,214	16,583	9,004	13,162	17,233	14,288	15,279	17,525	17,543
May	8,458	8,033	10,857	8,687	15,133	20,805	12,397	13,989	13,960	.....
June	8,628	4,425	10,945	13,309	14,765	14,758	11,949	13,945	15,065	.....
July	6,642	5,188	9,063	10,260	9,988	12,632	8,926	12,185	11,144	.....
Aug.	6,113	5,003	7,137	10,100	12,197	12,510	11,645	11,896	7,468	.....
Sept.	3,561	4,667	9,942	10,641	15,037	9,518	9,756	9,268	10,070	.....
Oct.	3,366	4,602	10,065	11,662	12,897	15,570	13,151	23,088	12,860	.....
Nov.	3,179	4,724	7,815	10,879	9,865	11,369	11,146	16,425	11,773	.....
Dec.	4,538	6,208	11,476	14,876	13,180	14,613	11,237	10,796	10,894	.....
Total	71,812	62,470	129,798	127,449	154,714	173,748	147,080	164,196	159,507	.....

* As compiled by Copper Institute.

Brass and Bronze Ingot Monthly Shipments

(NET TONS)

The following figures showing the combined shipments of ingot brass and bronze are compiled by the Ingot Brass and Bronze Industry and represent in excess of 95 per cent of the deliveries of the entire industry.

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Jan.	18,874	28,416	28,315	23,423	20,661	25,201	27,736	25,681	20,468	22,046	22,695
Feb.	18,487	27,168	24,211	25,429	19,920	25,349	24,949	20,769	17,413	23,746	23,129
Mar.	22,494	31,997	23,890	28,256	23,653	29,713	28,310	21,948	18,825	26,109	23,232
Apr.	22,118	30,473	22,547	25,044	24,746	27,641	25,808	23,507	18,009	26,115	20,413
May	23,643	33,267	21,740	21,660	22,269	23,708	23,437	22,037	17,191	23,967	.....
June	25,093	33,817	21,274	20,818	22,348	23,141	18,842	18,888	17,962	22,922	.....
July	21,609	32,016	18,947	19,321	17,074	18,513	17,364	16,695	16,658	20,346	.....
Aug.	29,689	25,285	21,807	20,156	21,694	27,013	23,812	19,654	17,882	21,741	.....
Sept.	28,811	22,285	22,770	21,463	22,464	26,349	20,929	19,670	20,540	22,685	.....
Oct.	32,240	23,124	25,511	22,280	24,080	25,228	23,045	22,800	23,225	23,067	.....
Nov.	31,118	30,544	22,441	21,804	23,061	25,102	21,818	19,767	20,758	22,283	.....
Dec.	28,575	20,987	22,583	20,541	21,274	21,448	18,046	16,876	18,676	19,535	.....
Total	303,563	332,378	277,736	271,251	263,233	298,406	274,096	248,297	227,607	274,562	.....
Aver.	25,297	27,615	23,145	22,694	21,936	24,867	22,841	20,681	18,133	22,864	.....

Mine Production of Copper in United States

	(U. S. Bureau of Mines) (In short tons)			Total
	Eastern	Missouri	Western	
1957				
Ttl.	79,369	1,800	995,753	1,076,922
1958				
Nov.	6,617	60	87,379	94,056
Dec.	6,614	70	88,070	94,514
Ttl.	76,849	1,250	902,021	980,304
1959				
Jan.	6,590	126	90,351	97,067
Feb.	5,883	130	81,849	87,862
Mar.	6,513	140	91,681	98,334
Apr.	7,240	150	93,209	100,599
May	7,007	110	94,493	101,610
June	7,245	124	87,035	94,404
July	6,763	111	80,058	86,932
Aug.	6,813	116	47,910	54,839
Sept.	6,655	123	20,342	27,120
Oct.	7,092	152	22,669	29,913
Nov.	3,226	140	22,529	25,895
Dec.	3,228	128	22,504	25,860
Ttl.	74,255	1,550	754,630	830,435
1960				
Jan.	3,904	107	43,845	47,856
Feb.	3,819	114	71,257	75,190
Mar.	7,229	96	88,407	95,732

Average Custom Smelters' Scrap Buying Prices

(Cents per pound for carload lots del. consumers' works)

	No. 1 Copper Scrap	No. 2 Copper Scrap	Light Copper Scrap	Refinery Brass
1958				
Aver.	21.788	20.282	18.035	18.047
1959				
Mar.	28.79	27.29	25.04	26.79
Apr.	28.04	26.50	24.29	26.04
May	27.81	26.31	24.06	25.81
June	26.80	25.30	23.05	24.80
July	25.14	23.64	21.39	23.14
Aug.	25.762	24.762	22.012	23.762
Sept.	25.369	24.869	22.319	24.369
Oct.	27.929	25.405	23.155	24.905
Nov.	30.00	26.208	23.958	24.528
Dec.	29.50	25.993	23.743	24.239
Av.	27.321	25.377	23.102	24.774
1960				
Jan.	30.025	26.30	24.05	24.55
Feb.	29.868	25.75	23.50	24.00
Mar.	27.207	24.038	21.788	22.071
Apr.	27.063	24.256	22.006	22.256

*Of dry content for material having a dry copper content in excess of 60%.

Brass Ingot Makers' Scrap Copper Buying Prices

(Average Prices)

(Cents per pound del. refinery for 60,000 lbs. of each grade)

	No. 1 Copper Scrap	No. 2 Copper Scrap	No. 1 Composition	Heavy Yellow Brass
1958				
Aver.	21.777	20.277	18.653	13.024
1959				
Mar.	28.79	27.29	22.85	16.85
Apr.	28.04	26.54	21.69	15.70
May	27.81	26.31	21.17	15.17
June	26.80	25.30	21.159	15.307
July	25.14	23.64	20.13	14.47
Aug.	25.762	24.262	21.286	14.81
Sept.	25.369	24.869	22.304	16.50
Oct.	27.959	25.405	22.19	16.048
Nov.	29.00	26.208	22.75	16.326
Dec.	28.50	25.993	22.50	16.00
Av.	27.120	25.377	21.567	15.52
1960				
Jan.	29.025	26.30	22.74	16.39
Feb.	28.408	25.75	22.00	16.00
Mar.	27.321	24.038	20.429	15.174
Apr.	27.063	24.256	20.613	15.15

Lead Statistics Reported by American Bureau of Metal Statistics

Lead Refineries in U. S. A. and Outside U. S. A.

(Recoverable Lead Content in Tons of 2,000 Pounds)

Combined U. S. A. and Outside U. S. A.

	REFINED PRODUCTION			DELIVERIES			STOCKS		
	Pig	Antimonial Lead Content	Total	Pig	Antimonial Lead Content	Total	Pig	Antimonial Lead Content	Total
1958 Total ..	1,485,282	106,383	1,591,665	1,307,390	102,697	1,410,087	.....	.....	.....
1959									
Sept. ..	98,966	4,751	103,717	101,415	5,154	106,569	288,383	15,954	304,337
Oct. ..	101,159	8,583	109,742	112,940	8,808	121,748	276,602	15,729	292,331
Nov. ..	110,295	9,330	119,625	117,420	8,885	126,305	269,477	16,174	285,651
Dec. ..	121,374	8,444	129,818	118,582	4,107	122,689	272,269	20,511	292,780
Total ..	1,406,485	105,943	1,512,418	1,422,985	106,666	1,529,651	.....	.....	.....
1960									
Jan. ..	131,753	9,395	141,148	124,705	7,413	132,118	*281,530	*20,280	301,810
Feb. ..	127,595	8,977	136,572	121,803	9,539	131,342	287,322	19,719	307,041
Mar. ..	128,203	8,490	136,693	122,013	8,327	130,340	293,512	19,882	313,394

U. S. A.

1958 Total ..	473,208	46,985	520,193	589,528	49,893	639,421	.....	.....	.....
1959									
Sept. ..	14,699	88	14,787	37,310	543	37,853	163,467	7,727	171,194
Oct. ..	18,096	697	18,793	35,110	2,290	37,400	167,969	8,150	176,119
Nov. ..	17,785	854	18,639	42,000	2,038	44,038	158,009	7,602	165,611
Dec. ..	27,969	2,052	30,021	41,502	1,745	39,757	154,307	11,552	165,859
Total ..	343,726	34,628	378,354	596,214	42,312	638,526	.....	.....	.....
1960									
Jan. ..	37,497	2,414	39,911	49,498	2,304	51,802	156,215	12,257	168,472
Feb. ..	33,742	2,570	36,312	56,569	2,659	59,228	152,299	12,464	164,763
Mar. ..	35,018	2,070	37,088	40,536	2,289	42,825	158,023	12,399	170,422

Outside U. S. A.

1958 Total ..	1,012,074	59,398	1,071,472	717,862	52,804	770,666	.....	.....	.....
1959									
Sept. ..	84,267	4,663	88,930	64,105	4,611	68,716	124,916	8,227	133,143
Oct. ..	83,063	7,886	90,949	77,830	6,518	84,348	108,633	7,579	116,212
Nov. ..	92,510	8,476	100,986	75,420	6,847	82,267	111,468	8,572	120,040
Dec. ..	93,405	6,392	99,797	77,080	5,852	82,932	117,962	8,959	126,921
Total ..	1,062,759	71,315	1,134,074	826,771	64,453	891,225	.....	.....	.....
1960									
Jan. ..	94,256	6,981	101,237	75,207	5,109	80,316	*125,315	*8,023	133,338
Feb. ..	93,853	6,407	100,260	65,234	6,880	72,114	135,023	7,255	142,278
Mar. ..	93,185	6,420	99,605	81,477	6,038	87,515	135,489	7,483	142,972

* Stocks on Jan. 1, 1960 are not comparable to those reported for Dec. 31, 1959 due to changes in the basis by reporting areas.

Summary of Lead Statistics for United States

Recoverable Lead Content in Tons of 2,000 Pounds	Raw Material at Smelter	Stocks (end of period)			Total	Smelter Receipts			Total
		Base Bullion	At Smelter & Transit	At Refinery and Process		Primary Origin U.S.A.	Outside U.S.A.	Scrap	
1958									
December ..	68,197	4,489	28,955	252,466	354,107	25,544	18,921	4,090	43,555
Total .....	.....	.....	.....	.....	.....	297,687	191,415	29,080	518,182
1959									
August	49,262	9,637	24,994	182,938	266,831	20,958	2,703	1,428	25,089
September ..	61,420	9,609	29,012	171,194	271,235	13,725	11,675	753	26,153
October	66,942	7,285	24,758	176,119	275,194	15,837	4,959	1,049	21,845
November	70,376	3,617	27,335	165,611	266,939	13,956	5,599	649	20,204
December	70,036	4,594	35,288	165,859	275,777	20,125	10,013	2,621	32,759
Total .....	.....	.....	.....	.....	.....	244,803	125,100	20,596	389,999
1960									
January	78,131	4,003	37,013	168,472	287,619	21,094	26,442	1,900	49,436
February	86,087	2,680	36,748	164,763	290,278	24,719	15,822	2,136	42,677
March	93,108	5,029	36,866	170,422	305,425	29,979	17,105	2,128	49,212
1958	Total	512,323	473,208	46,985	520,193	589,528	49,893	639,421	Total
1959									
July .....	.....	37,328	30,098	2,646	32,744	31,991	2,153	.....	34,144
August .....	.....	26,698	23,404	2,091	25,495	55,094	7,397	.....	62,491
September .....	.....	13,995	14,699	88	14,787	37,310	543	.....	37,853
October .....	.....	16,315	18,096	697	18,793	35,110	2,290	.....	37,400
November .....	.....	16,770	17,785	854	18,639	42,000	2,038	.....	44,038
December .....	.....	32,676	27,969	2,052	30,021	41,507	1,745	.....	39,757
Total .....	.....	381,656	343,726	34,628	378,354	596,214	42,312	.....	638,526
1960									
January .....	.....	40,593	37,497	2,414	39,911	49,498	2,304	.....	51,802
February .....	.....	34,326	33,742	2,570	36,312	56,569	2,659	.....	59,228
March .....	.....	41,673	35,018	2,070	37,088	40,536	2,289	.....	42,825

United States Lead Statistics of Primary Refineries

(American Bureau of Metal Statistics)
(In tons of 2,000 lbs.)

	Stock At Beginning	Production Primary & Secondary	Total Supply	Stock At End	Domestic Shipments
1954	81,152	551,618	632,770	92,719	475,551
1955	28,855	547,153	639,872	31,089	531,339
1956		613,293	644,382		529,484
1957		604,353	645,534		463,060
1958					
July	163,504	38,827	202,331	164,860	31,948
August	164,860	39,520	204,380	169,302	34,254
September	169,302	43,269	212,571	170,666	41,657
October	170,666	45,467	216,133	169,435	46,647
November	169,435	40,485	209,920	179,321	30,591
December	179,321	44,042	223,363	198,538	24,852
Total		522,956	614,554		380,359
1959					
January	198,508	43,652	242,160	208,874	33,035
February	208,874	39,498	248,372	214,946	30,685
March	214,946	39,238	254,184	210,524	40,980
April	210,524	40,606	251,130	197,823	52,469
May	197,823	39,101	236,924	171,577	65,207
June	171,577	37,459	209,036	133,235	75,465
July	133,235	32,882	166,117	142,694	22,380
August	142,694	25,589	168,283	124,259	43,850
September	124,259	14,801	139,060	117,296	21,795
October	117,296	18,892	136,188	115,418	20,552
November	115,418	18,796	134,214	114,303	19,869
December	114,303	30,160	144,463	119,993	24,516
Total		380,674	579,182		450,983
1960					
January	119,993	40,043	160,036	117,589	42,083
February	117,589	36,435	154,024	116,269	37,599

In instances where the figures are not in balance it is due to shipments to other than domestic consumers.

Industrial Classification of Domestic Lead Shipments

	(American Bureau of Metal Statistics)				(In tons of 2,000 lbs.)			
	Cable	Amm.	Foil	Batt'y	Brass Making	Sun-dries	Job-bers	Unclassified
1955								
Total	72,418	27,599	2,622	88,461	3,960	52,994	13,034	270,251
1956								
Total	80,360	24,501	1,435	70,614	3,158	56,851	13,213	274,716
1957								
Oct.	3,671	3,300	205	5,973	881	4,203	847	21,367
Nov.	2,950	2,500	85	3,126	493	3,800	706	18,533
Dec.	2,499	1,350	36	2,820	270	2,607	529	13,997
Total	58,444	25,452	1,691	64,761	7,420	53,284	11,127	240,881
1958								
Jan.	2,938	550	70	4,775	521	5,173	801	18,594
Feb.	2,899	1,750	70	5,124	90	1,643	888	11,368
Mar.	3,133	1,200	35	4,711	681	3,149	908	15,068
April	3,207	900	70	3,138	580	2,831	533	10,913
May	3,216	1,850	35	4,671	866	3,071	1,027	15,285
June	3,463	1,950	35	2,767	480	4,217	1,716	17,450
July	3,169	1,250	275	3,936	515	4,157	1,052	17,594
Aug.	3,481	2,415	70	4,992	400	6,399	100	16,397
Sept.	4,132	2,290	320	5,775	848	6,771	1,747	19,774
Oct.	3,243	2,450		4,548	285	6,210	1,641	28,270
Nov.	3,690	2,150	50	6,527	360	4,887	822	12,105
Dec.	2,267	2,100	50	6,216	215	2,578	652	10,774
Total	38,838	20,855	1,080	57,180	5,841	51,086	11,882	193,592
1959								
Jan.	2,284	2,100	100	5,594	161	3,545	727	18,524
Feb.	2,988	1,225	50	5,254	735	2,706	931	16,796
Mar.	3,156	1,850	105	5,905	378	6,006	2,185	21,395
April	3,686	2,150	35	7,410	691	5,356	1,966	31,355
May	4,054	2,900	35	6,870	475	7,990	2,843	40,040
June	5,272	3,210	70	12,515	180	8,009	3,663	42,546
July	850	295	70	2,570	315	3,166	997	14,117
Aug.	3,268	1,150	205	3,073	410	6,640	1,921	27,183
Sept.	1,003		35	3,401	255	2,296	1,484	13,321
Oct.	700	500	35	4,299	228	2,676	1,021	11,093
Nov.	2,630	200	70	3,714	205	2,566	797	9,687
Dec.	2,133	950	70	3,479	475	2,628	738	14,043
Total	32,024	16,530	880	64,084	4,508	53,584	19,273	260,100
1960								
Jan.	2,138	3,352	105	3,268	550	4,786	1,106	26,778
Feb.	2,665	2,350	50	4,930	295	3,715	574	23,020

Lead Prices at New York

	(Common Grade) Monthly Average Prices (Cents Per Pound)			
	1957	1958	1959	1960
Jan.	16.00	13.00	12.619	12.00
Feb.	16.00	13.00	11.583	12.00
Mar.	16.00	13.00	11.42	12.00
Apr.	16.00	12.00	11.20	12.00
May	15.385	11.712	11.905	...
June	14.32	11.24	12.00	...
July	14.00	11.00	12.00	...
Aug.	14.00	10.85	12.286	...
Sept.	14.00	10.89	13.00	...
Oct.	13.704	12.673	13.00	...
Nov.	13.50	13.00	13.00	...
Dec.	13.00	13.00	12.523	...
Aver.	14.66	12.114	12.211	...

Lead Sheet Prices

	(To Jobbers, Full Sheets) Monthly Average Prices (Cents Per Pound)			
	1957	1958	1959	1960
Jan.	21.50	18.50	18.119	17.50
Feb.	21.50	18.50	17.083	17.50
Mar.	21.50	18.50	16.92	17.50
Apr.	21.50	17.50	16.70	17.50
May	20.885	17.212	17.405	...
June	19.82	16.74	17.50	...
July	19.82	16.50	17.50	...
Aug.	19.50	16.35	17.786	...
Sept.	19.50	16.39	18.50	...
Oct.	19.204	18.173	18.50	...
Nov.	19.00	18.50	18.50	...
Dec.	18.50	18.50	18.023	...

Battery Shipments

The following table shows replacement battery shipments in the United States as compiled by the Business Information Division of Dun & Bradstreet, Inc., for the Association of American Battery Manufacturers:

	(In thousands of units)			
	1957	1958	1959	1960
Jan.	2,638	2,004	2,672	1,866
Feb.	1,961	1,803	1,791	1,641
Mar.	1,254	1,577	1,376	1,873
Apr.	1,178	1,242	1,437	...
May	1,605	1,454	1,593	...
June	1,878	1,773	2,118	...
July	2,469	2,101	2,556	...
Aug.	2,856	2,333	2,728	...
Sept.	2,688	2,704	2,889	...
Oct.	3,042	2,976	3,069	...
Nov.	2,359	2,262	2,799	...
Dec.	2,015	3,041	2,465	...
Total	25,943	25,270	27,493	...

Lead Stocks at Primary U. S. Smelters and Refiners

(American Bureau of Metal Statistics)
(In tons of 2,000 lbs.)

	In ore and matte and in process at smelters	—In base bullion (lead content)— At smelters & refineries	In transit to refineries	In process at refineries	Refined pig lead	Anti- monial lead	Total Stocks
1958							
Jan. 1..	79,362	11,019	2,779	23,154	79,741	11,857	207,912
Feb. 1..	79,738	11,510	3,678	24,535	88,517	12,689	220,667
Mar. 1..	79,588	9,546	3,670	22,834	107,213	12,309	235,250
Apr. 1..	83,185	10,692	2,187	21,766	116,610	12,144	246,584
May 1..	86,053	11,838	2,138	20,524	130,668	12,468	263,689
June 1..	79,482	11,059	2,010	20,188	141,967	13,154	287,860
July 1..	80,060	9,012	1,570	22,092	150,648	12,856	276,238
Aug. 1..	83,347	12,438	860	21,615	154,378	10,482	283,379
Sept. 1..	77,416	14,767	1,176	20,444	158,413	10,889	283,105
Oct. 1..	72,724	14,797	2,223	18,125	159,662	11,004	278,535
Nov. 1..	61,819	11,492	1,086	19,041	157,385	12,050	262,873
Dec. 1..	62,960	11,072	1,565	20,941	167,493	11,828	275,859
1959							
Jan. 1..	72,378	10,917	1,767	19,746	185,913	12,595	303,316
Feb. 1..	72,832	10,565	1,889	21,317	197,085	11,789	315,477
Mar. 1..	62,383	11,707	1,447	21,479	202,835	12,111	311,962
Apr. 1..	68,433	14,352	350	20,575	198,459	12,065	314,234
May 1..	64,538	12,373	624	20,507	184,468	13,355	295,865
June 1..	55,223	12,239	766	20,391	157,981	13,596	260,196
July 1..	58,451	13,270	943	19,468	120,914	12,321	225,367
Aug. 1..	53,115	18,379	158	18,021	129,551	13,143	232,367
Sept. 1..	50,007	17,389	....	15,638	116,344	7,915	207,293
Oct. 1..	61,910	17,925	....	14,932	109,527	7,769	212,063
Nov. 1..	69,429	14,800	....	14,919	107,849	7,569	214,566
Dec. 1..	70,837	12,919	....	15,708	106,678	7,625	213,767
1960							
Jan. 1..	73,381	16,955	3,085	16,914	108,002	11,991	230,328
Feb. 1..	78,315	17,139	1,425	19,003	105,292	12,297	233,471
Mar. 1..	89,656	14,899	1,643	19,360	103,615	12,654	241,827

Receipts of Lead in Ore and Scrap

By U. S. Smelters (a)

(American Bureau of Metal Statistics)

(In tons of 2,000 lbs.)

	—Receipts of lead in ore—			Receipts of lead in scrap etc. (b)	Total receipts in ore, & scrap
	United States	Foreign	Total		
1953 Total	351,183	155,788	506,971	42,994	549,965
1954 Total	336,291	158,081	494,372	49,864	544,236
1955 Total	341,595	172,966	514,561	42,996	557,557
1956 Total	368,499	192,318	560,817	55,925	616,792
1957 Total	356,409	206,901	563,310	42,537	605,847
1958					
January	25,537	22,097	47,634	3,507	51,141
February	23,789	16,400	40,189	2,184	42,373
March	21,735	20,038	41,773	3,154	44,927
April	25,104	15,821	40,925	1,913	42,838
May	27,427	10,228	37,655	1,867	39,522
June	28,577	13,811	42,388	1,366	43,754
July	22,289	19,692	41,981	1,615	43,596
August	22,984	13,043	36,027	1,252	37,279
September	20,654	14,576	35,230	1,765	36,995
October	18,678	9,093	27,771	3,577	31,348
November	24,024	14,541	38,565	3,933	42,498
December	24,366	18,804	43,170	3,982	47,152
Total	285,164	188,144	473,308	30,115	503,423
1959					
January	24,304	19,449	43,753	3,138	46,891
February	22,253	8,660	30,913	1,747	32,660
March	21,897	21,012	42,909	1,328	44,237
April	22,339	10,998	33,337	1,196	34,533
May	21,645	5,202	26,847	1,930	28,777
June	23,634	12,368	36,002	2,431	38,433
July	19,165	11,695	30,860	2,199	33,059
August	19,971	2,821	22,792	1,009	23,801
September	13,591	3,465	17,056	32	17,088
October	14,740	3,648	18,388	133	18,521
November	13,808	4,582	18,390	133	18,523
December	21,208	20,977	42,185	5,269	47,454
Total	238,555	124,877	363,432	20,545	383,977
1960					
January	20,531	26,307	46,838	1,762	48,600
February	23,700	15,541	39,241	2,131	41,372

(a) Receipts of lead in ore are computed on the basis of recoverable lead. Owing to the estimation factor in this, which is probably on the low side, and also to the possibility that some lead receipts may escape attention, these monthly totals probably understate the actual production of pig lead. (b) inclusive only of scrap smelted in connection with ore, plus some scrap received by primary refiners.

METALS, MAY, 1960

N. Y. Lead Price Changes

(Effective Date)

1951							
Oct. 2..	**19.00	Apr. 12...	14.00				
1952		June 2...	14.25				
Apr. 29...	18.00	June 15...	14.00				
May 2...	17.00	Aug. 25...	14.25				
May 12...	15.00	Sept. 7...	14.50				
June 23...	15.50	Sept. 15...	14.75				
June 24...	16.00	Oct. 4...	14.875				
Oct. 7...	15.00	Oct. 5...	15.00				
Oct. 14...	14.00	1955					
Oct. 22...	13.50	Sept. 23...	15.00-				
Nov. 3...	14.00		15.50				
Nov. 10...	14.20	Sept. 26...	15.50				
Nov. 11...	14.50	Dec. 29...	16.00				
Nov. 20...	14.25	1956					
Nov. 24...	14.00	Jan. 4...	16.50				
Dec. 22...	14.25	Jan. 13...	16.00				
Dec. 29...	14.50	1957					
Dec. 31...	14.75	May 9...	15.50				
1953		May 16...	15.00				
Jan. 7...	14.50	June 11...	14.00				
Jan. 12...	14.00	Oct. 14...	13.50				
Feb. 2...	13.50	Dec. 2...	13.00				
Mar. 4...	13.00	1958					
Mar. 10...	13.50	Apr. 1...	12.00				
Apr. 7...	13.00	May 14...	11.50				
Apr. 16...	12.50	June 3...	11.00				
Apr. 21...	12.00	June 18...	11.50				
Apr. 29...	12.50	July 1...	11.00				
May 18...	12.75	Aug. 13...	10.75				
May 19...	13.00	Sept. 17...	11.00				
May 26...	13.15	Sept. 30...	11.50				
June 11...	13.50	Oct. 2...	12.00				
July 20...	13.75	Oct. 8...	12.50				
July 23...	14.00	Oct. 14...	13.00				
Sept. 16...	13.50	1959					
1954		Jan. 21...	12.00				
Jan. 18...	13.00	Feb. 11...	11.50				
Feb. 18...	12.50	Feb. 24...	11.00				
Mar. 9...	12.75	Mar. 5...	11.50				
Mar. 10...	13.00	April 1...	11.00				
Mar. 26...	13.25	April 20...	11.50				
Mar. 29...	13.50	May 7...	12.00				
Apr. 1...	13.75	Aug. 24...	13.00				
		Dec. 14...	12.50				
		Dec. 21...	12.00				

**OPS Callings.

Antimonial Lead Stocks at Primary Refineries

(A.B.M.S.)

	(In tons of 2,000 pounds)			
End of	1957	1958	1959	1960
Jan. ..	10,487	12,689	11,789	12,297
Feb. ..	10,220	12,309	12,111	12,654
Mar. ..	5,091	3,527	4,098	2,332
Apr. ..	9,391	12,468	13,355	....
May ..	9,799	13,154	13,596	....
June ..	9,503	12,856	12,321	....
July ..	8,661	10,482	13,143	....
Aug. ..	9,553	10,889	7,915	....
Sept. ..	10,215	11,004	7,769	....
Oct. ..	11,581	12,050	7,569	....
Nov. ..	11,119	11,828	7,625	....
Dec. ..	11,857	12,595	11,991	....

Antimonial Lead Production by Primary Refineries

(A.B.M.S.)

	(In tons of 2,000 pounds)			
End of	1957	1958	1959	1960
Jan. ..	5,114	3,743	3,541	2,538
Feb. ..	5,468	3,657	4,415	2,694
Mar. ..	9,794	12,144	12,065	12,679
Apr. ..	6,183	3,655	5,533	....
May ..	6,978	4,827	4,618	....
June ..	4,466	3,992	5,671	....
July ..	5,372	2,775	2,784	....
Aug. ..	7,967	5,244	2,185	....
Sept. ..	7,574	4,761	1,02	....
Oct. ..	6,148	5,849	886	....
Nov. ..	3,791	3,913	1,324	....
Dec. ..	3,290	4,539	2,656	....

Total 67,541 50,482 37,813

Lead Imports and Exports By Principal Countries

(A.B.M.S.)

Reported in pigs, bars, etc.; metric tons
except where otherwise noted.

	1959 Dec.	1960 Jan.	1960 Feb.
IMPORTS			
U. S.* (s.t.)	11,866	19,854	15,511
Belgium	2,763		
Denmark	3,740	2,077	405
France	5,437	3,200	6,049
Italy**	1,943		
Netherlands	4,073		
Norway	516		
Sweden	1,137	2,103	
Switzerland	2,151		
U. K. (l.t.)	18,487	13,062	13,052
India† (l.t.)	2,341	1,190	
EXPORTS			
U. S.* (s.t.)	82	13	6
Canada (s.t.)	10,218	5,549	6,692
Belgium	4,096		
Denmark	155	503	620
France	746	674	767
Netherlands	381		
Sweden	2,475	74	
Switzerland	27		
Northern Rhodesia† (l.t.)	1,576	985	1,376
Australia (l.t.)	8,240	12,118	11,260

* Refined.

** Includes lead alloys

† British Bureau of Non-Ferrous Metal Statistics.

French Lead Imports

(A. B. M. S.)

(In metric tons)

	1960 Jan.	1960 Feb.	1960 Mar.
Ore (gross weight)	5,677	13,151	30,905
Algeria	714	662	1,811
Morocco	4,963	11,439	27,044
Other countries		1,050	2,050
Pig lead	3,200	6,049	5,948
Belgium	682	2,052	944
Germany (W.)	44	1,075	864
Spain	100	29	71
U. Kingdom			1
Algeria	308	215	16
Morocco	1,304	2,166	2,313
Tunisia	482	231	1,739
Australia	280	280	
Other countries		1	
Antimonial lead	102	150	2

U. K. Lead Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

	1960 Jan.	1960 Feb.	1960 Mar.
(Gross Weight) Lead and lead alloys	13,062	13,052	16,125
Australia	7,955	8,618	8,460
Canada	2,816	2,056	4,770
Yugoslavia	150	300	
Peru	100	250	300
Other countries	2,041	1,828	2,595

**IT PAYS
to
ADVERTISE
in the
DAILY METAL REPORTER**

U. S. Lead Consumption

(Bureau of Mines — In Short Tons)

Metal Products:	Dec. 1959	Jan. 1960	Feb. 1960
Ammunition	4,020	3,168	3,823
Bearing metals	1,804	2,034	1,951
Brass and bronze	1,816	1,974	2,008
Cable covering	5,816	5,172	5,780
Calking lead	4,922	5,355	5,324
Casting metals	669	609	668
Collapsible tubes	555	570	607
Foil	227	374	255
Pipes, traps and bends	1,923	1,781	2,074
Sheet lead	2,168	2,013	2,182
Solder	4,564	5,005	5,111
Storage battery grids, posts, etc.	15,038	14,685	13,765
Storage battery oxides	15,182	14,942	14,890
Terne metal	103	182	205
Type metal	2,173	2,202	2,207
Total	60,980	60,036	60,850
Pigments:			
White lead	691	218	553
Red lead and litharge	6,625	7,143	7,149
Pigment colors	1,029	980	1,031
Other*	180	160	191
Total	8,525	8,501	8,924
Chemicals:			
Tetraethyl lead	11,234	13,938	10,725
Misc. chemicals	294	31	46
Total	11,528	13,969	10,771
Miscellaneous uses:			
Annealing	485	453	525
Galvanizing	140	187	143
Lead plating	5	6	8
Weights and ballast	423	526	573
Total	1,053	1,172	1,249
Other uses unclassified	1,603	1,586	1,296
Total reported†	83,689	85,264	83,090
Estimated unreported consumption	2,000	2,000	2,000
Grand total†	85,700	87,300	85,100
Daily average‡	2,765	2,816	2,934

* Includes lead content of leaded zinc oxide production.

† Includes lead content of scrap used directly in fabricated products.

‡ Based on number of days in month without adjustment for Sundays and holidays.

Consumers' Lead Stocks, Receipts and Consumption

(Bureau of Mines — In Short Tons)

	Stocks Jan. 31, 1960	Net Receipts In Feb.	Consumed In Feb.	Stocks Feb. 29, 1960
Soft lead	74,899	59,030	54,947	78,982
Antimonial lead	38,607	21,957	19,866	40,698
Lead in alloys	5,991	3,727	3,628	6,090
Lead in copper-base scrap	965	1,447	1,594	818
Total	120,462	86,161	*80,035	126,588

* Excludes 2,871 tons of lead which went directly from scrap to fabricated products and 184 tons of lead contained in leaded zinc oxide production.

Consumption of Lead by Class of Product

(Bureau of Mines — In Short Tons)

	Soft lead	Antimonial lead	Lead in alloys	Lead in copper-base scrap	Total
FEBRUARY					
Metal products	33,450	19,322	3,613	1,594	57,979
Pigments	8,733	7			8,740
Chemicals	10,771				10,771
Miscellaneous	808	441			1,249
Unclassified	1,185	96	15		1,296
Total	54,947	19,866	3,628	1,594	*80,035

* Excludes 2,871 tons of lead which went directly from scrap to fabricated products and 184 tons of lead contained in leaded zinc oxide production.

U. K. Lead Consumption

(British Bureau of Non-Ferrous Metal Statistics)

	1958	1959	1960
(In tons of 2,240 pounds)			
Jan.	29,607	28,872	31,745
Feb.	27,855	25,968	30,241
Mar.	29,713	26,691	35,066
Apr.	26,230	29,252	
May	28,839	27,280	
June	28,624	30,099	
July	27,201	26,851	
Aug.	21,726	25,358	
Sept.	28,829	30,255	
Oct.	31,356	32,926	
Nov.	27,786	32,579	
Dec.	27,154	31,772	
Total	335,920	345,903	

American Antimony

Monthly Average Prices

In bulk, f.o.b. Laredo
(Cents per lb. in ton lots)

	1957	1958	1959	1960
Jan.	33.00	33.00	29.00	29.00
Feb.	33.00	30.818	29.00	29.00
Mar.	33.00	29.00	29.00	29.00
Apr.	33.00	29.00	29.00	29.00
May	33.00	29.00	29.00	
June	33.00	29.00	29.00	
July	33.00	29.00	29.00	
Aug.	33.00	29.00	29.00	
Sept.	33.00	29.00	29.00	
Oct.	33.00	29.00	29.00	
Nov.	33.00	29.00	29.00	
Dec.	33.00	29.00	29.00	
Aver.	33.00	29.485	29.00	

Domestic Zinc Statistics

American Zinc Institute

Commencing with January, 1948, all regularly operating U. S. primary and secondary smelters are included in this report. Production from foreign ores also is included.
(Tons of 2,000 lbs.)

	Stock Begin- ning	Pro- duction	Shipments				Stock at End	Daily Avg. Prod.
			Domes- tic	Export & Drawback	Gov't Acc't	Total		
1950 Total	94,221	310,354	849,246	18,189	128,256	995,691	8,884	2,494
1950 Mo. Avg.		75,863	70,770	1,516	10,868	82,974		
1951 Total	8,884	931,833	836,800	42,067	39,945	918,816	21,901	2,553
1951 Mo. Avg.		77,653	69,733	3,506	3,329	76,568		
1952 Total	21,901	961,430	893,343	56,202	36,626	896,171	87,160	2,627
1952 Mo. Avg.		80,119	66,945	4,683	3,052	74,681		
1953 Total	87,160	971,191	818,850	16,326	42,332	877,503	180,843	2,661
1953 Mo. Avg.		80,933	68,238	1,361	3,528	73,126		
1954 Total	180,843	865,242	787,922	27,929	108,957	924,808	124,277	2,379
1954 Mo. Avg.		72,353	65,660	2,327	9,080	77,067		
1955 Total	40,979	1,031,018	1,007,619	19,497	87,290	1,114,316	40,979	2,825
1955 Mo. Avg.		86,918	83,968	1,625	7,267	92,860		
1956 Total		1,062,964	869,270	9,027	157,014	1,035,311	68,622	2,904
1956 Mo. Avg.		88,850	72,439	752	13,085	86,275		
1957 Total		1,067,450	765,132	15,460	179,466	815,567		
1958								
April	203,641	70,214	46,598	159	5,927	52,684	221,171	2,340
May	221,171	71,018	51,390	129	...	61,519	240,670	2,291
June	240,670	66,967	54,487	171	...	64,658	252,979	2,232
July	252,979	65,119	60,312	55	...	60,187	257,911	2,101
August	257,911	62,927	68,718	591	...	69,309	251,529	2,030
September	251,529	63,705	76,905	213	...	77,118	238,116	2,124
October	238,116	65,304	93,018	226	...	93,224	210,176	2,107
November	210,176	65,174	83,394	212	...	83,606	191,744	2,172
December	191,744	75,503	76,862	148	...	77,010	190,237	2,432
1958 Total		828,902	767,755	3,102	34,488	805,325		
1959								
January	190,237	76,481	70,770	171	...	70,941	195,777	2,467
February	195,777	71,174	65,641	849	...	66,490	200,461	2,542
March	200,461	79,918	73,814	482	...	74,296	206,083	2,578
April	206,083	76,393	78,358	255	...	78,613	203,863	2,546
May	203,863	77,489	85,073	275	...	85,348	186,004	2,500
June	196,004	75,544	99,858*	204	2,100	102,162	169,386	2,518
July	169,386	73,101	59,460	94	900	60,454	182,033	2,358
August	182,033	69,768	58,918	864	...	59,782	192,019	2,251
September	192,019	62,202	57,971	3,214	...	61,185	193,036	2,073
October	193,036	63,938	63,910	1,813	...	65,723	191,251	2,063
November	191,251	62,346	74,596	2,844	...	77,440	176,157	2,078
December	176,157	69,666	84,498	5,900	...	81,404	154,419	2,247
1959 Total		858,020	872,867	17,971	3,000	893,838		
1960								
January	154,419	73,326	79,325	3,949	...	83,274	144,471	2,365
February	144,471	74,738	78,029	4,118	...	82,147	137,062	2,577
March	137,062	86,028	80,760	5,764	...	86,524	136,566	2,775
April	136,566	83,221	64,251	7,675	...	71,926	147,861	2,774

* Inflated by abnormal shipments on consignment of approximately 9,000 tons.

Prime Western Zinc Prices

(East St. Louis, f.o.b.)

	(Cents Per Pound)			
	(In tons of 2,240 pounds)			
	1957	1958	1959	1960
Jan.	13.50	10.00	11.50	12.90
Feb.	13.50	10.00	11.41	13.00
Mar.	13.50	10.00	11.00	13.00
Apr.	13.50	10.00	11.00	13.00
May	11.933	10.00	11.00	...
June	10.84	10.00	11.00	...
July	10.00	10.00	11.00	...
Aug.	10.00	10.00	11.00	...
Sept.	10.00	10.00	11.381	...
Oct.	10.00	10.865	12.233	...
Nov.	10.00	11.386	12.50	...
Dec.	10.00	11.50	12.50	...
Aver.	11.40	10.313	11.46	...

High Grade Zinc Prices

(Delivered)

N. Y. Monthly Averages

	(Cents Per Pound)			
	1957	1958	1959	1960
Jan.	14.85	11.35	12.50	14.244
Feb.	14.85	11.35	12.411	14.25
Mar.	14.85	11.35	12.00	14.25
Apr.	14.85	11.084	12.00	14.50
May	13.283	11.00	12.00	...
June	12.19	11.00	12.00	...
July	11.35	11.00	12.00	...
Aug.	11.35	11.00	12.006	...
Sept.	11.35	11.00	12.625	...
Oct.	11.35	11.865	13.483	...
Nov.	11.35	12.386	13.75	...
Dec.	11.35	12.50	13.75	...
Aver.	12.75	11.407	12.544	...

U. S. Consumption of Slab Zinc

Bureau of Mines By Industries (Short Tons)

	Galvan- izers	Die Casters	Brass products	Rolled zinc	Zinc oxide & other	Total
1951 Total	386,373	266,442	141,456	64,000	28,738	887,009
1952 Total	375,563	236,022	155,311	51,508	30,885	849,289
1953 Total	403,162	305,246	177,301	53,784	38,087	977,636
1954 Total	398,599	286,817	107,293	45,979	33,342	876,130
1955 Total	439,694	404,790	144,816	50,363	39,302	1,081,468
1956 Total	421,218	352,451	122,395	45,382	36,251	983,097
1957 Total	355,796	358,543	111,114	39,544	20,486	924,063
1958						
March	27,171	19,045	6,871	3,138	1,724	59,978
April	27,464	17,829	6,392	3,259	1,295	58,432
May	30,935	18,316	6,597	2,896	2,263	61,907
June	34,377	21,497	6,643	2,961	2,212	67,690
July	30,677	17,387	6,275	2,848	1,920	60,007
August	34,663	20,382	8,358	3,379	1,901	70,033
September	34,048	25,188	9,624	3,458	770	74,122
October	36,513	27,682	11,753	3,845	881	81,919
November	31,658	27,311	10,067	3,276	826	74,302
December	31,746	29,928	10,529	3,681	1,018	78,082
Total	370,441	273,540	92,906	38,690	16,772	737,942
1959						
January	31,729	29,110	11,172	3,874	2,521	79,506
February	31,672	26,448	11,508	3,418	2,864	77,010
March	37,287	29,286	12,889	3,629	3,203	87,394
April	38,541	31,262	12,304	3,715	3,223	90,145
May	38,788	29,169	12,015	3,316	3,305	88,093
June	40,531	36,269	10,764	3,801	3,120	95,985
July	23,700	28,120	7,558	2,509	2,042	65,429
August	13,763	29,803	10,064	3,160	2,161	60,451
September	13,181	31,463	10,842	3,322	2,237	62,545
October	13,582	35,473	10,543	3,272	2,487	66,857
November	25,456	29,351	8,858	3,411	2,523	71,099
December	38,418	34,576	8,704	3,152	2,936	89,286
Total	346,648	370,330	127,221	40,759	22,622	933,800
1960						
January	38,389	31,813	9,838	3,130	3,352	88,122
February	35,001	34,829	9,259	3,250	3,156	87,365
March	36,206	31,889	10,108	3,309	3,403	86,515

METALS, MAY, 1960

U. K. Zinc Consumption

(British Bureau of Non-Ferrous Metal Statistics)

	(In Tons of 2,240 Pounds)		
	1958	1959	1960
Jan.	27,473	27,849	30,637
Feb.	24,551	25,676	30,480
Mar.	26,967	27,243	35,268
Apr.	24,984	28,006	...
May	24,579	26,167	...
June	25,587	30,221	...
July	23,794	26,318	...
Aug.	19,076	21,566	...
Sept.	26,747	31,270	...
Oct.	29,838	30,686	...
Nov.	26,432	29,221	...
Dec.	26,042	30,829	...
Total	306,070	335,890	...

IT PAYS
to
ADVERTISE
in the
DAILY METAL REPORT

Mine Production of Zinc in United States

(U. S. Bureau of Mines)

	(In short tons)			
	Eastern States	Central States	Western States	Total U.S.*
1954				
Total	166,487	63,100	234,942	464,539
1955				
Total	163,230	73,630	277,811	514,671
1956				
Total	175,310	61,080	301,253	537,643
1957				
Total	196,877	29,506	290,151	520,128
1958				
Nov.	15,393	—	16,998	32,391
Dec.	15,064	—	16,939	32,003
Total	180,373	10,050	221,582	412,005
1959				
Jan.	16,446	—	19,114	35,560
Feb.	16,881	—	19,292	36,104
Mar.	18,266	—	18,817	37,183
Apr.	19,198	—	19,132	38,330
May	19,150	—	19,201	38,351
June	18,217	—	18,447	36,664
July	13,158	—	18,656	31,814
Aug.	14,410	140	16,661	31,211
Sept.	14,226	154	15,026	29,406
Oct.	15,608	200	15,979	31,487
Nov.	18,285	200	15,698	34,183
Dec.	19,609	106	15,757	35,472
Total	204,384	800	211,781	416,965
1960				
Jan.	20,962	226	15,795	36,983
Feb.	21,001	195	16,823	38,019
Mar.	22,794	347	18,943	42,084

*Includes Alaskan output in some months.

Mine Production of Lead in United States

(U. S. Bureau of Mines)

	(In short tons)			
	Eastern States	Central States	Western States	Total U.S.*
1953				
Ttl.	9,970	136,650	188,776	335,412
1954				
Ttl.	8,608	138,940	169,804	317,352
1955				
Ttl.	10,379	145,640	177,409	333,409
1956				
Ttl.	11,395	141,900	195,034	348,329
1957				
Ttl.	9,300	135,800	188,392	333,493
1958				
Dec.	565	9,600	11,699	21,865
Ttl.	6,439	118,114	142,824	267,377
1959				
Jan.	549	9,748	12,239	23,536
Feb.	611	8,457	12,314	21,382
Mar.	601	7,943	12,426	20,970
Apr.	454	8,103	12,684	21,241
May	412	7,253	12,509	20,174
June	458	8,185	12,764	21,407
July	369	8,190	11,010	19,569
Aug.	353	9,762	11,735	21,850
Sept.	510	9,698	10,328	20,536
Oct.	548	10,012	10,755	21,315
Nov.	620	9,350	10,954	20,924
Dec.	550	8,734	10,572	19,856
Ttl.	6,535	105,435	141,290	253,260
1960				
Jan.	535	9,035	11,235	20,805
Feb.	555	9,611	12,267	22,433
Mar.	619	11,146	13,100	24,865

Mine Production of Gold in United States

(U. S. Bureau of Mines)
(In fine ounces)

	Eastern States	Western States	Alaska*	Total
1955				
Ttl.	2,026	1,634,625	247,535	1,884,186
1956				
Ttl.	1,998	1,607,930	204,300	1,814,228
1957				
Ttl.	2,174	1,556,450	210,000	1,768,624
1958				
Dec.	—	—	10,373	144,757
1959				
Jan.	—	—	—	143,374
Feb.	—	—	—	128,932
Mar.	—	—	537	135,934
Apr.	—	—	2,956	141,777
May	—	—	9,719	157,338
June	—	—	23,792	163,057
July	—	—	33,324	171,749
Aug.	—	—	37,534	146,907
Sept.	—	—	30,886	114,364
Oct.	—	—	29,349	117,314
Nov.	—	—	2,903	91,175
Dec.	—	—	17,294	106,525
Ttl.	—	—	188,294	1,618,446
1960				
Jan.	—	—	2,460	—
Feb.	—	—	1,064	108,652
Mar.	—	—	231	117,447

* Alaska totals based on mint and smelter receipts.

U. S. Silver Production* (A.B.M.S.)

(In thousands of ounces; commercial bars, 0.999 fine, and other refined forms)

	Dom.†	For.	Total
1954 Total	38,059	39,422	77,481
1955 Total	33,101	32,780	65,881
1956 Total	38,157	40,160	78,317
1957 Total	36,279	34,932	71,211
1958			
November	2,505	3,283	5,788
December	3,275	3,652	7,236
Total	35,691	37,572	73,263
1959			
January	2,330	4,460	6,790
February	2,827	2,913	5,740
March	2,823	4,087	6,910
April	2,946	3,233	6,179
May	2,641	3,484	6,125
June	3,219	3,231	6,450
July	2,609	3,284	5,893
August	1,472	1,229	2,701
September	390	577	967
October	510	610	1,120
November	635	602	1,237
December	756	4,311	5,067
Total	23,158	32,021	55,179
1960			
January	3,327	2,830	6,157
February	3,454	3,496	6,950
March	4,010	4,259	8,269

* The separation between silver of foreign and domestic origin on the basis of refined bars and other refined forms is only approximate.

† Includes purchases of crude silver by the U. S. Mint.

Mine Production of Recoverable Silver in United States

(U. S. Bureau of Mines)

	(In Fine Ounces)				
	Eastern States	Missouri	Western States	Alaska*	Total
1957 Total	610,386	240,000	37,018,950	26,000	37,895,336
1958					
Total	†	210,000	†	28,000	33,022,225
1959					
January	†	21,000	†	—	2,868,648
February	†	18,060	†	—	2,908,630
March	†	17,200	†	67	2,982,254
April	†	17,600	†	421	2,963,775
May	†	15,900	†	1,201	3,046,085
June	†	17,900	†	2,953	2,926,886
July	†	8,900	†	4,149	2,905,320
August	†	10,600	†	5,523	2,291,540
September	†	10,400	†	3,224	1,794,029
October	†	10,900	†	3,793	1,952,629
November	†	10,400	†	469	1,874,624
December	†	10,140	†	2,334	1,825,198
Total	†	169,000	†	24,134	30,349,334
1960					
January	†	18,300	†	321	1,962,523
February	†	200	†	312	2,370,150
March	†	100	†	17	2,858,903

† Figures not available.

* Alaska totals based on mint and smelter receipts.

Production of Primary Aluminum in the U. S.

(U. S. Bureau of Mines)

	(In short tons)							
	1953	1954	1955	1956	1957	1958	1959	1960
Jan.	89,895	116,247	128,203	140,394	147,029	139,910	156,708	164,024
Feb.	92,649	110,483	116,236	132,763	119,059	121,980	142,116	156,826
Mar.	104,460	122,339	130,272	145,895	135,706	134,019	157,189	170,688
Apr.	102,071	120,434	126,394	144,726	139,152	128,559	155,213	168,596
May	105,464	125,138	131,128	150,800	145,174	129,083	163,857	—
June	104,152	120,758	127,634	145,726	138,007	115,325	167,323	—
July	109,285	126,161	132,669	151,624	142,157	118,811	179,594	—
Aug.	110,545	125,296	133,551	152,406	143,449	125,416	172,817	—
Sept.	109,333	120,332	130,606	132,316	129,278	124,713	168,205	—
Oct.	108,219	125,089	134,655	149,125	133,759	139,847	173,762	—
Nov.	105,636	121,252	133,689	145,081	135,024	140,962	153,666	—
Dec.	110,291	127,056	140,748	148,391	140,033	153,301	162,996	—
Ttl.	1,252,013	1,460,565	1,565,721	1,679,427	1,647,710	1,655,556	1,953,019	—

Average Silver Prices

	(Cents per fine ounce)			
	1957	1958	1959	1960
Jan.	91.375	89.449	90.19	91.375
Feb.	91.375	88.625	90.444	91.375
Mar.	91.375	88.625	91.351	91.375
Apr.	91.375	88.625	91.375	91.375
May	91.307	88.625	91.375	—
June	90.456	88.625	91.375	—
July	90.31	88.625	91.375	—
Aug.	90.909	88.625	91.399	—
Sept.	90.602	88.673	91.399	—
Oct.	90.625	89.966	91.375	—
Nov.	90.382	90.125	91.375	—
Dec.	89.80	89.932	91.375	—
Aver.	90.824	89.043	91.226	—

Note — The averages are based on the price of refined bullion imported on or after August 31, 1943.

METALS, MAY, 1960

U. S. Lead Imports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1959 Dec.	1960 Jan. Feb.	
Ore, matte, etc. (cont.)	12,312	15,157	11,876
Canada	3,141	3,474	8,665
Mexico	9	217	79
Honduras	850	600	529
Bolivia	1,223	474	...
Colombia	200	...	...
Peru	4,274	2,619	1,243
Union of S. Africa	...	4,475	2,070
Australia	2,615	3,200	1,566
Philippines	...	49	9
Korea	...	...	25
Other countries	...	49	1,780
Base bullion (content)	...	12	23
Peru	...	12	20
Other countries	...	...	8
Pigs and bars	11,866	19,554	15,511
Canada	8,906	1,957	1,797
Mexico	2,056	7,653	8,912
Peru	2,463	1,211	100
Belgium	...	323	...
Denmark	168	...	...
Spain	733	...	903
Sweden	1,120	...	...
Yugoslavia	100	...	2,305
Rhodesia & Nyasaland	349	...	...
Australia	971	8,710	1,494
Total Imports:			
Ore, base bullion, ref.	24,178	35,023	26,910
Lead scrap, dross, etc.			
(content)	597	335	495
Antimonial lead & typemetal	915	328	1,104
Lead content thereof	861	265	1,039

U. S. Copper Imports

(A.B.M.S.) (Bureau of the Census)
(In tons of 2,000 lbs.)

	(In tons of 2,000 lbs.)		
	1959 Dec.	1960 Jan. Feb.	
Ore, matte & regulus (content)	5,226	7,246	9,899
Canada	896	3,710	1,484
Mexico	...	...	653
Cuba	2,074	...	938
Argentina	...	7	...
Bolivia	236	13	...
Chile	1,766	1,140	2,097
Peru	121	1,059	190
Philippines	...	...	2,760
Union of S. Africa	...	1,030	1,777
Australia	131	285	...
Other countries	2	2	...
Blister copper (cont.)	34,528	21,507	14,215
Mexico	1,032	...	2,538
Chile	28,370	17,925	10,081
Peru	1,243	1,765	1,312
Union of S. Africa	3,882	1,220	...
Turkey	...	547	...
Other countries	...	50	284
Refined cathodes and shapes	40,200	34,120	22,599
Canada	17,443	12,556	9,864
Mexico	1,305	551	441
Chile	2,910	2,235	600
Peru	2,319	3,078	2,320
Belgium	2,579	1,384	801
Germany (West)	6,168	4,521	4,030
Finland	...	888	...
Norway	50	150	...
Spain	...	2,756	2
Sweden	142	1,717	397
United Kingdom	3,088	391	336
Belgian Congo	340	196	...
Rhodesia & Nyasaland	3,493	1,610	3,724
Union of S. Africa	...	112	...
Australia	...	1,001	...
Other countries	251	1,086	84
Total Imports:			
Crude and refined	79,954	62,873	46,713
Old and scrap (cont.)	514	704	628
Composition metal (content)	29	96	4
Brass scrap and old (cu. cont.)	156	128	179

METALS, MAY, 1960

U. S. Zinc Imports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1959 Dec.	1960 Jan. Feb.	
Zinc ore (content)	30,278	36,012	43,284
Canada	11,153	10,709	11,363
Mexico	7,093	14,324	20,129
Cuba	78	...	...
Honduras	68	775	795
Bolivia	98	15	...
Colombia	11	...	...
Peru	5,847	5,255	4,295
Italy	5,335	...	...
Spain	...	3,870	2,951
Union of S. Africa	...	499	3,513
Australia	595	438	226
Philippines	...	3	4
Other countries	...	124	8
Zinc blocks, pigs, etc.	10,736	8,955	9,477
Canada	6,068	6,386	6,312
Mexico	353	384	309
Peru	802	351	680
Belgium	84	552	413
Germany (West)	...	...	110
Italy	783	779	165
Yugoslavia	441	110	165
Belgian Congo	2,205	55	1,323
Rhodesia & Nyasaland	...	338	...
Total Imports:			
Zinc ore, blocks, pigs	41,014	44,967	52,761
Dross and skimmings	120	42	134
Old and worn out	...	12	9

U. S. Copper Exports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1959 Dec.	1960 Jan. Feb.	
Ore, concentrates, matte and other unrefined (content)	95	53	809
Refined ingots, bars, etc.*	5,146	11,337	19,029
Canada	221	221	157
Mexico	...	...	44
Argentina	...	...	440
Brazil	...	397	328
Belgium	51	25	88
Denmark	...	112	112
France	335	1,746	2,594
Germany (West)	2,271	3,491	4,844
Italy	44	845	3,288
Netherlands	503	279	698
Norway	...	280	...
Sweden	112	...	224
Switzerland	20	47	112
United Kingdom	576	1,721	2,917
Japan	1,001	2,173	2,621
Australia	...	...	280
Other countries	12	...	1
Total Exports:			
Crude and refined	5,241	11,390	19,838
Pipes and tubes	...	14	39
Plates and sheets	34	33	15
Semifabricated forms	625	325	156
Wire, bare	391	162	178
Building wire and cable†	97	72	80
Weatherproof wire†	4	3	4
Insulated copper wire n.e.s.†	1,437	926	854

* Includes exports of refined copper resulting from scrap that was reprocessed on toll for account of the shipper.
† Gross weight; n.e.s.—not elsewhere specified.

Comparative Metal Prices

	OPA		1959
	1939	1946	May 24
Copper, domestic	47	14.375	33.00
Electro., Del. Val.	11.20	8.25	12.00
Lead (N. Y.)	5.05	8.25	12.00
P. W. Zinc (E. St. Louis, f.o.b.)	5.05	5.05	13.00
New York, del.	...	...	13.50
Tin Spot Straits, N. Y.	...	...	99.75
Aluminum ingot 99½%+	20.00	15.00	28.10
Antimony (R.M.M. brand f.o.b. Laredo)	12.36	14.50	29.00

U. S. Copper Scrap Exports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1959 Dec.	1960 Jan. Feb.	
Copper scrap, unalloyed* (new and old)	1,970	2,282	2,932
Canada	...	181	226
Belgium	...	11	2
Germany (West)	191	217	964
Italy	83	189	222
Portugal	106	28	...
Yugoslavia	716	1,005	150
India	2	51	233
Japan	872	600	918
Hong Kong	...	...	217
Copper-base scrap, alloyed† (new and old)	3,311	3,374	7,375
Canada	2	...	4
Mexico	1	3	2
France	...	60	11
Germany (West)	303	265	308
Italy	74	52	149
Netherlands	...	20	73
Switzerland	56	14	...
United Kingdom	...	30	...
India	8	110	564
Japan	2,808	2,783	6,453
Hong Kong	...	15	11
Other countries	59	22	...

* Ash, brass mill, clippings, dross, flue dust, residues, scale, skimmings, wire scrap.
† Copper-base alloys, including brass and bronze—Ashes, clippings for remanufacture, cupro-nickel scrap, cupro-nickel trimmings, nickel silver scrap, phosphor bronze, phosphor copper, skimmings, turnings, round.

U. S. Zinc Exports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1959 Dec.	1960 Jan. Feb.	
Slabs, blocks, etc.	2,338	5,608	1,816
Mexico	187	341	176
Cuba	59	50	...
Brazil	...	102	...
Chile	11	...	7
Netherlands	...	112	224
Sweden	...	...	336
United Kingdom	2,016	3,361	700
Korea	...	4	...
India	45	1,517	153
Other countries	20	121	220
Total Exports:			
Ore, concs, slabs, blocks	2,338	5,608	1,816
Scrap, ashes, dross and skimmings	1,346	966	581
Rolled in sheets, plates and strips and die castings	294	187	427
Zinc and zinc alloys in crude and semifabricated forms	146	95	128
Zinc oxide	165	153	172

U. S. Lead Exports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1959 Dec.	1960 Jan. Feb.	
Lead, ore, concentrates, matte and base bullion (content)	7	20	47
Canada	...	16	...
Mexico	7	4	47
Pigs and bars	82	13	6
Canada	...	...	1
Mexico	...	7	3
Chile	...	2	...
Venezuela	...	...	1
Philippines	67	4	...
Japan	5	...	...
Other countries	10	...	1
Total Exports:			
Ore, base bullion, ref.	89	33	53
Scrap	118	163	...
Lead plate, including battery plate, not assembled as complete battery units	...	21	7
Babbitt metal	12	12	8
Lead and lead base alloys in semifabricated forms	22	24	42

World Production of Copper

(American Bureau of Metal Statistics)

(In Tons of 2,000 Pounds)

	United States	Canada	Mexico (crude)	Chile	Peru	Fed. Rep. of Germany	Norway	United Kingdom	Yugoslavia	India	Japan	Turkey	Australia	Northern Rhodesia	Union of South Africa
	(a)	(b)	(c)	(d)	(d)	(e)	(f)	(g-h)	(c)	(f-h)	(a)	(f)	(e)	(e)	(d)
1955															
Total	1,036,702	326,599	61,583	447,288	35,478	286,805	14,876	138,271	31,151	8,432	124,908	26,313	41,935	350,302	47,176
1956															
Total	1,133,134	356,251	69,918	506,251	35,005	279,461	16,457	127,365	32,390	8,827	139,062	27,101	55,711	435,186	47,914
1957															
Total	1,115,483	360,745	42,905	....	46,141	255,710	17,265	121,799	37,186	9,298	143,654	27,101	55,633	499,418	47,828
1958															
Nov.	96,369	20,368	5,040	46,310	3,923	24,932	1,594	8,542	3,462	774	11,764	....	....	25,612	4,249
Dec.	97,641	19,023	5,066	46,284	3,196	25,569	1,597	9,042	2,929	832	15,054	....	....	45,935	4,406
Total	1,881,170	346,816	68,386	462,064	42,750	295,312	19,529	106,134	37,116	9,062	136,612	24,676	72,361	426,513	53,090
1959															
Jan.	95,542	24,669	5,342	44,579	3,115	25,945	1,724	7,356	3,685	679	17,385	2,469	5,349	48,699	4,600
Feb.	88,432	28,016	4,810	43,589	1,627	24,289	1,599	9,211	3,521	587	11,388	1,614	5,930	44,420	4,339
Mar.	101,410	32,427	4,771	44,554	1,601	26,959	1,694	8,654	3,536	810	10,746	2,034	4,573	51,630	4,611
Apr.	98,376	32,130	5,201	42,715	4,250	26,859	1,870	11,259	3,593	763	17,938	2,330	7,419	48,150	4,528
May	104,236	32,622	5,275	46,083	3,770	25,358	1,771	7,693	3,503	764	18,516	2,480	6,408	53,067	4,676
June	99,419	36,979	5,847	46,901	3,357	24,635	1,743	10,909	3,231	776	18,621	2,362	8,133	53,895	4,766
July	81,662	36,067	5,755	45,508	3,676	25,890	1,639	7,108	3,369	781	18,957	1,846	5,346	48,806	4,541
Aug.	51,327	35,045	5,326	50,093	2,533	24,716	1,677	6,610	1,810	774	18,805	2,378	5,798	50,285	4,357
Sept.	19,503	35,740	4,125	44,439	8,782	25,357	1,986	10,438	3,619	799	18,837	2,427	7,111	48,753	3,742
Oct.	20,931	35,980	4,068	36,449	3,061	27,640	1,800	8,951	3,137	804	18,898	2,304	....	49,519	3,025
Nov.	18,351	35,271	4,886	50,877	2,904	25,258	1,495	10,076	3,451	802	17,186	2,923	....	49,232	5,005
Dec.	26,686	34,416	4,872	53,186	3,438	28,143	2,035	8,736	....	421	20,498	....	....	48,350	5,244
1960															
Jan.	64,098	36,404	4,326	....	2,901	27,222	1,941	7,489	....	769	21,096	....	....	56,495	....
Feb.	85,899	35,824	4,817	....	3,579	25,023	....	8,719	....	831	....	....	....	47,322	....
Mar.	107,995	....	5,376	....	....	3,754	....	....	....	....	....	2,....	....	52,332	....

(a) Reported by Copper Institute. Crude. (b) Recoverable contents of mine production or smelter production or shipments, and custom intake. (c) Does not include intake of scrap nor of imported ore except that received from Cuba and Philippines. (d) Blister copper plus recoverable copper in concentrates, matte, etc., exported. (e) Crude copper, i. e., copper content of blister or converter copper as originally produced in the several countries, although some of it may be refined at home; e. g., in Rhodesia. (f) Blister and/or refined. (g) Refined. There are quantities of scrap included in the electrolytic production in addition to that reported, tonnage of which is not obtainable. (h) Smelter production. (i) Refinery production from imported blister only. (j) British Bureau of Non-Ferrous Metal Statistics. * Refined.

World Production of Refined Lead

(American Bureau of Metal Statistics)

(In Tons of 2,000 Pounds)

	United States	Canada	Mexico	Peru	Belgium	France	Fed. Rep. of Germany	Italy	Spain	Yugoslavia	Japan	Australia (a)	French Morocco	Tunisia	Rhodesia	Total
1955																
Total	547,153	148,811	221,133	67,303	91,241	73,251	162,508	46,806	67,509	83,347	40,912	254,558	28,870	28,620	17,976	1,893,185
1956																
Total	613,293	147,865	213,524	61,917	111,479	73,251	178,713	42,780	64,824	83,507	51,019	256,300	30,993	26,623	17,024	1,984,344
1957																
Total	604,533	142,935	218,266	55,971	....	94,509	195,136	42,336	61,332	85,313	59,670	261,035	34,442	27,069	12,364	2,041,530
1958																
Nov.	40,486	10,645	20,967	6,448	9,495	9,068	17,785	4,825	6,914	11,155	3,555	20,148	2,625	2,519	1,120	165,406
Dec.	44,042	11,076	20,992	5,344	10,342	10,351	18,370	5,101	7,069	11,212	3,769	21,492	4,002	2,779	1,120	179,309
Total	575,612	130,866	246,443	80,999	119,192	111,337	223,973	60,860	77,490	92,903	52,915	271,654	42,266	32,359	16,492	1,955,753
1959																
Jan.	43,662	14,073	19,031	4,951	10,761	6,694	18,658	4,636	6,215	4,082	6,086	24,470	2,575	1,068	1,344	169,256
Feb.	39,498	12,740	15,472	2,662	9,460	5,812	17,869	4,437	6,020	8,596	6,474	22,037	2,319	1,765	1,344	157,928
Mar.	39,238	13,704	16,305	3,424	8,447	6,733	17,553	3,168	6,196	8,153	6,889	20,144	1,905	2,429	1,344	156,914
April	40,606	13,655	16,621	4,438	8,038	5,541	17,141	4,942	6,491	6,876	6,615	23,919	2,726	2,165	1,344	162,611
May	39,101	13,357	16,937	6,006	8,797	7,363	17,728	5,614	7,435	8,369	6,137	23,499	2,050	1,784	1,344	165,602
June	37,459	12,997	20,000	6,640	9,125	6,976	18,128	2,483	6,510	7,554	6,349	25,151	1,652	926	1,344	164,815
July	32,882	8,096	17,099	6,401	8,734	6,065	16,381	4,384	6,074	2,221	5,303	19,125	2,859	1,749	1,344	139,291
Aug.	25,589	7,357	19,086	4,267	7,547	6,581	15,256	3,354	6,049	8,645	5,344	21,168	862	2,863	1,344	136,725
Sept.	14,801	9,775	14,320	4,354	7,217	6,164	17,773	4,502	4,728	8,731	5,322	22,786	3,567	2,352	1,344	128,850
Oct.	18,892	9,897	17,988	6,093	7,107	6,004	18,070	4,310	6,193	....	4,663	24,226	3,466	2,669	1,344	....
Nov.	18,796	9,674	18,223	6,199	7,766	6,431	17,820	4,310	6,193	8,273	4,594	24,226	3,466	2,669	1,344	141,370
Dec.	30,160	10,071	16,448	5,826	7,708	6,581	19,726	4,638	6,639	11,393	6,865	23,448	3,869	2,056	1,344	....
1960																
Jan.	40,043	11,664	15,821	6,127	8,450	6,818	19,424	3,128	7,284	....	6,699	26,233	2,448	....	1,309	....
Feb.	36,435	....	17,371	6,063	....	6,276	17,907	4,260	6,468	....	....	....	2,267	950	1,316	....
Mar.	37,192	....	13,687	7,154	....	....	....	....	....	....	....	....	....	....	1,348	....

(a) Production credited to Australia includes lead refined in England from Australian base bullion.

World Production of Slab Zinc

(American Bureau of Metal Statistics)

	(In Tons of 2,000 Pounds)

	(In Tons of 2,000 Pounds)																
	United States	Can.	Mexico	Peru	Belgium	France	Fed. Rep. of Germany	Great Britain	Italy	Netherlands	Norway	Spain	Yugoslavia	Japan	Australia	Rhodesia	Total
	(a)	(b)		(b-c)			(a)			(b)	(b)				(b)	(b)	(d)
1955																	
Total	1,031,018	257,008	61,879	18,943	233,623	123,623	197,024	90,917	77,761	31,203	49,724	26,244	15,175	122,965	113,221	31,248	2,534,457
1956																	
Total	1,062,954	255,601	62,136	10,428	251,906	124,105	204,961	90,784	80,407	32,123	53,170	25,224	15,434	153,821	117,445	32,396	2,630,383
1957																	
Total	1,574,500	247,356	62,354	35,772	259,701	148,455	202,627	85,348	81,179	32,786	52,787	24,279	30,256	152,145	123,587	33,040	2,691,699
1958																	
Oct.	65,304	21,125	5,344	2,305	17,866	14,176	16,462	6,046	6,442	2,820	4,915	2,313	2,793	14,436	11,045	2,940	203,169
Nov.	65,174	20,274	5,197	2,625	18,696	13,764	16,196	6,158	5,874	2,249	4,669	2,244	3,730	13,501	10,508	2,828	197,481
Dec.	75,503	21,705	5,537	2,686	19,402	13,844	17,090	7,564	6,344	2,332	4,755	2,262	2,684	12,473	10,860	2,856	213,093
Total	892,607	254,661	18,354	34,685	257,540	177,422	210,408	80,494	5,955	2,841	54,423	26,750	34,446	166,883	128,548	39,508	2,464,639
1959																	
Jan.	76,481	21,466	5,476	2,753	19,857	13,903	17,164	5,955	5,617	2,693	4,826	2,028	2,647	11,679	10,541	2,900	211,506
Feb.	71,174	19,709	4,915	1,497	19,838	13,491	16,632	6,123	4,735	2,927	4,928	1,926	2,510	14,105	9,617	2,548	199,495
Mar.	79,918	22,135	5,439	2,363	20,215	14,230	17,325	7,797	6,801	2,921	4,917	2,369	3,014	13,217	10,759	2,800	221,316
Apr.	76,393	21,512	5,225	2,502	20,408	14,087	16,426	6,030	7,039	2,816	3,621	2,239	2,509	15,645	10,472	2,716	216,378
May	77,489	21,147	5,108	2,545	21,181	13,902	16,635	6,595	7,790	2,823	4,798	2,273	2,701	16,171	11,137	2,744	226,067
June	75,544	21,250	4,776	2,524	21,004	14,120	16,185	8,271	7,164	2,899	4,759	2,180	2,083	15,873	10,899	2,716	215,131
July	73,101	21,055	5,038	2,634	20,100	14,262	16,825	8,112	7,303	2,917	4,539	2,057	3,796	15,233	11,189	2,856	215,525
Aug.	69,768	21,588	4,965	2,504	19,472	13,138	16,585	7,970	6,219	2,998	4,646	2,198	3,355	15,068	10,912	2,912	211,964
Sept.	69,999	20,744	4,935	2,587	19,387	13,883	16,366	7,992	6,519	2,928	4,798	2,208	3,913	15,303	10,985	2,800	199,560
Oct.	63,938	21,744	5,084	2,545	20,512	13,228	17,064	5,557	6,403	2,947	3,570	2,245			10,904	2,800	.....
Nov.	62,346	21,039	5,072	2,608	21,180	12,251	16,689	6,203	6,403	2,947	3,570	2,245	4,919	13,634	10,904	2,800	199,319
Dec.	69,666	21,963	5,330	2,578	21,810	12,807	17,336	7,772	6,519	3,201	3,074	2,331		15,141	11,305	2,906	.....
1960																	
Jan.	73,326	22,426	5,278	2,668	21,957	11,298	17,409	7,250	6,781	2,786	4,743	2,402	.....	15,498	11,023	2,707	.....
Feb.	74,738	21,055	4,827	2,600	22,059	13,626	16,501	5,781	6,774	2,957	4,299	2,213	.....		10,357	2,464	.....

U. K. Stocks of Zinc

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)				
Virgin Zinc		Zinc Conc.		
At start of:	1959	1960	1959	1960
Jan.	34,166	37,162	56,371	45,885
Feb.	34,805	48,337	58,518	41,547
Mar.	36,850	48,689	57,897	39,546
Apr.	38,457	51,064	52,151	44,250
May	38,643	.....	47,936	.....
June	37,713	.....	41,954	.....
July	38,297	.....	45,640	.....
Aug.	37,427	.....	43,948	.....
Sept.	40,358	.....	42,385	.....
Oct.	40,995	.....	39,233	.....
Nov.	35,994	.....	38,948	.....
Dec.	35,460	.....	47,131	.....

U. K. Zinc Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)			
	1960	1959	1958
	Jan.	Feb.	Mar.
(Gross Weight)			
Zinc ore and concentrates ..	5,528	14,230	26,848
Zinc conc.*	3,480	4,206	†
Australia	1,004	1,364	.....
Peru	641	1,189	.....
Burma	1,672	935	.....
Turkey .....	.....	616	.....
Other countries	163	102	.....
Zinc and zinc alloys	24,715	17,616	19,802
Rhodesia- Nyasaland	125	350	375
Australia	1,905	1,121	.....
Canada	7,007	7,398	11,462
Belgium	2,146	1,031	975
Germany (W.)	300	1	70
Netherlands	150	327	25
Soviet Union	2,633	2,206	3,071
United States	5,192	1,690	639
Belgian Congo	2,115	1,465	1,550
Poland	999	150	750
Other countries	2,143	1,877	885

* British Bureau of Non-Ferrous Metal Statistics. The estimated zinc content is not the content of the gross weight as officially reported for any comparable period.
† Not available.

U. K. Copper Exports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)			
	1960	1959	1958
	Jan.	Feb.	Mar.
Copper unwrought —ingots blocks, slabs, bars, etc.	6,067	4,241	3,726
Plates, sheets, rods, etc.	1,583	6,230	4,931
Wire (including uninsulated electric wire) ..	284	229	316
Tubes	1,170	773	1,139
Other copper worked (including pipe fittings)	75	154	95
Total	9,179	11,627	10,207

METALS, MAY, 1960

Copper Consumption in United Kingdom

British Bureau of Non-Ferrous Metal Statistics
(In tons of 2,240 pounds)

	Unalloyed	Alloyed*	Total	Virgin	Scrap
1956 Total	388,167	251,312	639,479	500,794	138,685
1957 Total	407,326	234,158	641,484	507,493	133,991
1958					
December	37,580	19,118	56,698	45,968	10,730
Total	442,977	225,001	667,978	534,619	133,359
1959					
February	29,373	19,020	48,393	35,775	12,518
March	27,864	19,567	47,431	36,124	11,307
April	32,742	22,782	55,525	43,015	12,509
May	28,421	19,199	47,620	33,367	14,253
June	35,009	21,103	56,112	44,761	11,351
July	24,714	19,858	44,572	32,034	12,538
August	24,524	16,097	40,621	30,866	9,755
September	35,447	21,920	57,367	45,178	12,189
October	37,221	23,880	61,101	47,345	13,756
November	37,463	23,392	60,855	47,031	13,824
December	36,044	23,202	59,246	44,753	14,493
Total	382,295	250,871	633,166	478,819	154,347
1960					
January	33,888	23,428	57,316	41,741	15,575
February	37,662	23,925	61,587	48,824	12,763
March	41,306	26,676	67,982	54,389	13,593

* Includes copper sulphate effective October, 1954.

U. K. Virgin Copper Stocks

(British Bureau of Non-Ferrous Metal Statistics)

At start of:	1958	1959	1960
Jan.	91,477	64,184	55,005
Feb.	82,483	65,941	61,008
Mar.	89,147	65,875	55,979
Apr.	94,330	72,946	51,137
May	88,582	72,318	.....
June	88,913	78,505	.....
July	81,851	80,477	.....
Aug.	84,756	81,986	.....
Sept.	89,899	89,483	.....
Oct.	85,092	77,803	.....
Nov.	74,696	64,602	.....
Dec.	69,023	60,936	.....

U. K. Refined Lead Stocks

(British Bureau of Non-Ferrous Metal Statistics)

(In long tons)			
At start of:	1958	1959	1960
Jan.	51,296	45,444	48,035
Feb.	49,134	48,102	44,290
Mar.	47,738	40,535	42,043
Apr.	40,547	53,289	41,248
May	37,509	62,286	.....
June	34,608	63,135	.....
July	40,518	57,810	.....
Aug.	37,148	67,586	.....
Sept.	43,758	66,048	.....
Oct.	48,856	63,121	.....
Nov.	40,216	56,697	.....
Dec.	35,335	46,984	.....

Zinc Imports and Exports By Principal Countries

(A.B.M.S.)

Reported in pigs, bars, etc.; metric tons except where otherwise noted.

	1959	1960
	Dec.	Jan. Feb.
IMPORTS		
U. S. (s.t.)	10,736	8,955 9,477
Belgium	44	.....
Denmark	635	802 1,124
France	1,122	714 1,373
Italy	478	.....
Netherlands	569	.....
Sweden	5,022	4,241
Switzerland*	1,632	.....
U. K. (l.t.)	16,201	24,715 17,616
India† (l.t.)	2,878	2,119 3,433
EXPORTS		
U. S. (s.t.)	2,338	5,608 1,816
Canada (s.t.)	14,637	14,874 18,106
Belgium	9,414	.....
Denmark	185	36 264
France	647	519 564
Italy	1,050	.....
Netherlands	1,850	.....
Norway	2,355	.....
Switzerland*	498	.....
U. K.† (l.t.)	540	549 763
Northern Rhodesia† (l.t.)	2,295	2,510 2,540
Australia (l.t.)	1,538	2,252 2,833

* Includes scrap.

† Includes manufactures.

† British Bureau of Non-Ferrous Metal Statistics.

United Kingdom Tin Statistics

(British Bureau of Non-Ferrous Metal Statistics)

Tin Content of Tin in Ore			
	Imports	Production*	Stock at end of period*
1957 Total	39,272	1,028	.....
1958 Total	27,419	1,090	.....
1959			
April	1,743	103	1,798
May	1,493	92	1,575
June	1,323	129	920
July	2,971	112	2,043
August	1,970	58	1,704
September	2,990	115	2,132
October	2,259	108	1,851
November	3,936	90	3,317
December	2,161	117	2,941
Total	25,812	1,252	.....
1960			
January	1,490	117	1,845
February	2,417	.....	2,095
Tin Metal			
	Imports	Production*	Consumption
1957 Total	9,834	34,175	20,365
1958 Total	13,195	32,551	20,413
1959			
April	1,636	1,745	3,326
May	1,808	1,686	2,421
June	2,267	1,987	2,919
July	2,735	1,682	2,639
August	1,908	1,224	2,958
September	2,229	2,093	3,742
October	3,101	1,915	1,986
November	2,513	1,861	1,997
December	15	2,858	1,513
Total	27,229	21,396	21,358
1960			
January	190	2,377	1,878
February	421	2,144	1,879

* As reported by International Tin Study Group. Production of Tin Metal includes production from imported scrap and residues refined on toll. Stocks exclude strategic stock but include official warehouse stocks.

Canada's Copper Output

(Dominion Bureau of Statistics)

(Primary Copper)				
(In Tons)				
	1957	1958	1959	1960
Jan. . .	25,469	32,868	24,664	36,404
Feb. . .	21,861	28,668	28,016	...
Mar. . .	27,663	29,239	32,427	...
Apr. . .	27,398	30,635	32,130	...
May . . .	29,086	32,471	32,622	...
June . . .	24,093	32,418	36,979	...
July . . .	27,195	31,131	36,067	...
Aug. . .	26,943	30,867	35,045	...
Sept. . .	24,633	27,546	35,740	...
Oct. . .	30,312	22,572	35,980	...
Nov. . .	27,331	20,368	35,271	...
Dec. . .	31,604	19,033	34,416	...
Year	323,588	346,816	399,362	...

Canada's Copper Exports

(Dominion Bureau of Statistics)

(Ingots, bars, slabs and billets)				
(In Tons)				
	1956	1957	1958	1959
Jan. . .	15,981	20,582	26,883	10,620
Feb. . .	11,041	16,272	16,816	10,304
Mar. . .	12,276	14,270	18,662	11,025
Apr. . .	14,476	16,417	23,261	17,079
May . . .	12,851	19,048	19,358	21,739
June . . .	10,985	10,826	20,831	21,310
July . . .	13,599	18,621	21,703	13,650
Aug. . .	14,710	21,980	15,881	15,155
Sept. . .	17,268	14,314	15,373	28,684
Oct. . .	13,896	13,110	20,341	...
Nov. . .	19,130	16,622	14,391	...
Dec. . .	18,630	16,282	11,138	...
Year	174,843	198,794	224,638	...

Canada's Lead Output

(Dominion Bureau of Statistics)

(Recoverable Lead)*				
(In Tons)				
	1956	1957	1958	1959
Jan. . .	16,002	14,032	17,117	17,118
Feb. . .	14,344	15,170	14,908	15,923
Mar. . .	16,857	16,940	15,421	17,389
Apr. . .	11,573	14,275	15,644	16,237
May . . .	15,446	14,591	15,131	16,813
June . . .	18,145	16,431	15,645	14,968
July . . .	15,841	14,377	14,076	15,111
Aug. . .	16,104	14,679	12,260	14,104
Sept. . .	15,760	15,869	15,401	12,420
Oct. . .	16,725	14,151	14,564	13,958
Nov. . .	14,865	15,879	16,680	...
Dec. . .	16,056	15,296	18,248	...
Year	188,971	171,690	185,095	...

* New base bullion from Canadian ores plus recoverable lead in ores or concentrates shipped for export.

Canada's Lead Exports

(Dominion Bureau of Statistics)

(In Pigs)				
(In Tons)				
	1956	1957	1958	1959
Jan. . .	4,888	8,946	4,752	5,034
Feb. . .	3,856	6,633	1,553	6,377
Mar. . .	4,007	7,044	9,497	11,831
Apr. . .	7,636	7,314	7,450	7,836
May . . .	7,214	9,676	7,764	12,230
June . . .	6,632	7,210	4,036	15,610
July . . .	9,696	4,682	12,629	3,478
Aug. . .	4,713	6,416	7,232	4,023
Sept. . .	9,908	8,467	5,125	3,895
Oct. . .	9,072	7,761	10,320	4,885
Nov. . .	9,227	6,175	10,641	...
Dec. . .	2,734	4,217	11,352	...
Year	79,633	84,541	92,351	...

Canada's Zinc Output

(Dominion Bureau of Statistics)

(Refined Zinc)				
(In Tons)				
	1956	1957	1958	1959
Jan. . .	21,696	20,340	21,801	21,456
Feb. . .	20,356	19,808	19,743	19,709
Mar. . .	22,010	21,941	22,314	22,135
Apr. . .	21,339	20,504	20,989	21,512
May . . .	21,790	20,564	21,269	21,147
June . . .	20,780	19,928	20,353	21,250
July . . .	21,691	20,061	20,873	21,055
Aug. . .	21,354	20,305	21,152	21,588
Sept. . .	20,691	20,247	20,530	20,744
Oct. . .	21,412	20,892	21,125	21,744
Nov. . .	20,470	20,933	20,273	...
Dec. . .	22,012	21,823	21,705	...
Year	255,607	247,351	252,157	...

Canada's Zinc Exports

(Dominion Bureau of Statistics)

(Slabs in Tons)				
	1956	1957	1958	1959
Jan. . .	15,550	19,304	17,349	13,565
Feb. . .	11,757	16,618	8,376	12,675
Mar. . .	8,822	14,923	19,636	14,617
Apr. . .	14,317	17,131	16,346	12,789
May . . .	11,357	16,680	15,121	11,049
June . . .	15,296	16,157	7,776	20,298
July . . .	15,499	12,912	27,394	23,122
Aug. . .	13,070	20,520	15,906	18,464
Sept. . .	19,732	17,671	8,670	14,367
Oct. . .	20,792	16,735	22,810	12,518
Nov. . .	21,411	17,225	17,978	...
Dec. . .	16,125	16,131	18,344	...
Year	183,728	202,007	195,707	...

Canada's Silver Exports

(Dominion Bureau of Statistics)

(In ores and concentrates)			
(Fine Ounces)			
	1957	1958	1959
Jan. . .	253,940	634,715	185,367
Feb. . .	380,463	208,149	329,742
Mar. . .	521,849	350,827	425,973
Apr. . .	431,646	284,971	989,593
May . . .	523,228	376,082	564,017
June . . .	468,559	438,253	871,570
July . . .	844,545	529,770	728,598
Aug. . .	811,530	279,511	688,042
Sept. . .	861,857	583,570	763,017
Oct. . .	432,000	323,475	767,939
Nov. . .	263,273	217,892	...
Dec. . .	186,569	871,573	...
Year	5,979,459	5,098,788	...

Canada's Silver Output

(Dominion Bureau of Statistics)

(In Ounces)			
	1957	1958	1959
Jan. . .	2,158,631	2,529,583	3,094,440
Feb. . .	2,051,879	2,294,655	2,264,903
Mar. . .	2,346,316	2,448,698	2,782,307
Apr. . .	2,225,638	2,558,958	2,691,503
May . . .	2,111,185	2,650,665	2,499,149
June . . .	2,208,584	2,527,632	2,676,937
July . . .	2,383,390	2,385,687	2,867,957
Aug. . .	2,592,468	2,884,154	2,519,033
Sept. . .	2,382,121	2,856,304	2,446,846
Oct. . .	2,817,358	2,390,027	3,072,219
Nov. . .	2,566,519	2,643,790	...
Dec. . .	2,537,984	2,917,528	...
Year	28,361,873	31,087,681	...

Canada's Nickel Output

(Dominion Bureau of Statistics)

(In Tons)				
	1957	1958	1959	1960
Jan. . .	16,609	16,710	8,047	17,399
Feb. . .	15,027	15,896	12,616	...
Mar. . .	16,733	15,853	14,922	...
Apr. . .	15,347	15,163	15,493	...
May . . .	16,225	15,231	16,622	...
June . . .	15,447	14,603	16,599	...
July . . .	15,878	12,851	16,199	...
Aug. . .	16,756	12,597	16,784	...
Sept. . .	15,604	11,786	16,205	...
Oct. . .	15,628	3,682	17,212	...
Nov. . .	14,587	3,178	16,904	...
Dec. . .	15,096	3,298	18,738	...
Year	188,962	140,842	186,341	...

METALS, MAY, 1960

Canadian Copper Exports

(Dominion Bureau of Statistics)

	(In tons of 2,000 lbs.)		
	1960	1960	1960
	Jan.	Feb.	Mar.
Ore, matte, regulus, etc.			
(content)	6,745	3,944	4,248
United States ..	4,136	1,901	2,472
Belgium	63		
Germany (W.) ..	76	140	
Norway	2,288	1,461	1,567
U. Kingdom	182	51	209
Japan		391	
Ingot, bars,			
billets, anodes ..	29,046	22,295	20,339
United States ..	15,634	11,038	11,502
Belgium	280		
France	2,576	1,120	1,120
Germany (W.) ..	920	452	616
Netherlands	504		112
Portugal	56		
Sweden	112		224
U. Kingdom	8,477	9,319	6,387
India	487	365	375
Other countries ..		1	3
Total Exports:			
Crude & refined ..	35,791	26,239	24,587
Old and scrap ..	578	736	396
Rods, strips,			
sheet & tubing ..	1,976	1,549	1,275

Canadian Zinc Exports

(Dominion Bureau of Statistics)

	(In tons of 2,000 lbs.)		
	1960	1960	1960
	Jan.	Feb.	Mar.
Ore (zinc content)	18,445	12,955	14,108
United States ..	11,557	12,955	14,108
Belgium	607		
Germany (W.) ..	310		
Norway	4,499		
U. Kingdom	1,472		
Slab zinc	14,874	18,106	16,887
United States ..	5,700	6,661	6,390
Chile		110	
Netherlands			448
U. Kingdom	9,096	10,721	7,007
Korea		250	199
Hong Kong	56		
Philippines	22		
Taiwan			154
India		364	154
Japan			2,535
Total Exports:			
Ore and slabs ..	33,319	31,061	30,995
Zinc scrap,			
dross, ashes ..	134	221	129
United States ..	76	182	112
Belgium	58		
Netherlands			17
Japan		39	

French Copper Imports

(A. B. M. S.)

	(In metric tons)		
	1960	1960	1960
	Jan.	Feb.	Mar.
Crude copper for refining (blister, black and cement)		813	
Belgian Congo ..		813	
Refined	12,276	16,271	18,144
United States ..	876	2,036	3,397
Canada	762	2,032	1,015
Chile	370	375	1,750
Belgium	3,701	5,781	7,150
Germany (W.) ..	53	53	464
Norway	228	76	76
Sweden	5	58	5
Belgian Congo ..	4,110	2,595	1,942
Rhodesia-Nyasaland ..	2,171	3,265	2,244
Other countries ..			101

Canadian Lead Exports

(Dominion Bureau of Statistics)

	(In tons of 2,000 lbs.)		
	1960	1960	1960
	Jan.	Feb.	Mar.
Ore (lead content)	8,356	5,686	3,387
United States ..	5,030	3,193	3,387
Belgium	1,505		
Germany (W.) ..	1,821	2,493	
Refined lead	5,549	6,692	11,216
United States ..	1,291	2,598	3,920
U. Kingdom	4,258	3,892	6,564
Japan		55	496
Taiwan		143	88
Korea			11
Other countries ..		4	33
India			104
Total Exports:			
Ore and refined ..	13,905	12,378	14,603
Lead scrap	377	426	4

Copper Imports and Exports By Principal Countries

(A.B.M.S.)

	Reported in ingots, slabs, etc.; metric tons except where otherwise noted.		
	1959	1960	1960
	Dec.	Jan.	Feb.
IMPORTS			
U. S. (blis., s.t.) ..	34,528	21,507	14,215
(ore, etc., s.t.) ..	5,226	7,246	9,899
(ref., s.t.)	40,200	34,120	22,599
Belgium*	18,431		
Denmark	634	451	517
France (crude) ..	813		813
(refined)	10,580	12,276	16,271
Italy	7,975		
Netherlands	1,949		
Norway	63		
Sweden	6,905	9,848	
Switzerland	1,952		
U. K. (l.t.)	35,638	44,384	40,076
India (blister/- ref., l.t.)†	4,651	3,375	2,688
Australia (blister/- ref., l.t.)	50		
EXPORTS			
U. S. (ore and unref., s.t.)	95	53	809
(ref., s.t.)	5,146	11,337	19,029
Canada (ref., s.t.) ..	23,872	29,046	22,295
Belgium*	17,602		
Finland†	1,009	369	
Norway	2,283		
Sweden	528	908	
U. K. (l.t.)	6,348	6,067	4,241
No. Rhodesia (blister & ref., l.t.)† ..	44,531	59,719	37,709

* Includes alloys.

† British Bureau of Non-Ferrous Metal Statistics.

‡ Includes old.

†† Copper wire bars and ingot bars 99% and copper ingots 97%.

Canada's Nickel Exports

(Dominion Bureau of Statistics)

	(Refined, in oxides, matte, etc.)		
	(In Tons)	1957	1958
		1957	1958
January	14,260	14,233	6,757
February	9,974	12,157	7,976
March	14,958	12,816	14,006
April	18,671	20,962	14,213
May	18,351	20,574	16,142
June	14,539	16,144	15,901
July	14,181	14,055	11,985
August	14,966	13,012	13,664
September	14,160	14,371	19,143
October	13,370	8,835	
November	16,820	3,901	
December	14,606	5,060	
Year	178,656	154,229	

French Zinc Imports

(A. B. M. S.)

	(In metric tons)		
	1960	1960	1960
	Jan.	Feb.	Mar.
Ore (gross weight)	14,747	37,279	72,085
Mexico			357
Peru	250	685	1,129
Belgium	23	1,287	1,310
Greece	5,270	821	6,091
Italy	1,511	5,827	9,442
Norway	528	923	1,551
Spain	1,057	11,349	17,981
Yugoslavia			1,331
Algeria	3,000	10,543	13,543
Morocco	2,946	1,144	12,285
Tunisia		4,700	4,700
Burma	162		162
Bulgaria			2,203
Slabs, bars, blocks, etc. ...	714	1,373	2,116
Belgium	400	1,322	1,562
Germany (W.) ..			44
Italy	102	51	
Netherlands			500
Algeria	9		10
Rhodesia & Nyasaland	203		

French Metal Exports

(A. B. M. S.)

	(In metric tons)		
	1960	1960	1960
	Jan.	Feb.	Mar.
LEAD			
Ore (gross weight)	1,622	3,333	1,785
Pig lead	674	767	781
Sweden			13
Switzerland	510	760	760
Egypt	149		
Other countries ..	15	7	8
Antimonial lead ..	63	140	93
COPPER			
Crude copper for refining (blister, black and cement)	1,281	1,280	715
ZINC			
Slabs, bars, blocks, etc. ...	519	564	521

U. K. Copper Imports

(British Bureau of Non-Ferrous Metal Statistics)

	(In tons of 2,240 lbs.)		
	1960	1960	1960
	Jan.	Feb.	Mar.
(Gross Weight)			
Copper and copper alloys ..	44,384	40,076	43,927
U. of S. Africa ..	1,050	175	50
Rhodesia-Nyasaland ..	28,439	16,082	21,881
Canada	6,081	9,264	7,051
Belgium	252	181	104
Germany (W.) ..	22	33	436
Norway	252	51	200
United States ..	952	988	4,777
Chile	6,570	12,854	8,865
Peru		175	
Belgian Congo ..	500		250
Other countries ..	266	274	313
Of which:			
Electrolytic	34,204	25,953	31,491
Other refined ..	3,701	6,024	4,600
Blister or wrought	6,334	7,775	7,397
Wrought and alloys	145	324	439
Total	44,384	40,076	43,927

Nonferrous Castings

MONTHLY SHIPMENTS, BY TYPE OF METAL
(Bureau of Census — Thousands of Pounds)

	Alu- minum	Copper	Mag- nesium	Zinc	Lead Die
1954 Total	607,764	854,557	25,572	474,741	18,396
1955 Total	833,058	1,611,748	27,892	781,254	21,045
1956 Total	801,136	966,473	36,168	88,069	20,734
1957 Total	751,856	875,389	30,322	663,330	23,791
1958					
November	55,793	62,476	2,615	48,431	1,409
December	59,487	67,905	2,612	55,600	1,497
Total	596,816	739,915	27,228	508,297	18,920
1959					
January	62,927	66,874	2,151	53,347	1,571
February	62,486	69,589	2,162	48,779	1,285
March	73,351	78,641	2,129	57,600	1,765
April	72,976	82,799	2,455	57,325	1,862
May	68,268	78,413	2,370	60,656	2,025
June	66,471	79,730	2,484	56,128	2,007
July	56,911	67,073	2,265	46,756	1,858
August	55,904	68,979	2,243	46,566	1,898
September	66,193	76,045	2,263	58,144	2,218
October	67,499	79,832	2,436	59,214	2,068
November	54,557	70,674	2,023	46,270	1,755
December	64,939	73,558	2,163	60,652	1,346
Total	790,520	892,027	27,144	651,437	21,658
1960					
January	68,247	73,971	2,135	61,357	1,496
February	71,792	74,246	2,085	65,594	1,628

Copper Castings Shipments

BY TYPE OF CASTING
(Bureau of Census) (Thousands of Pounds)

	Total	Sand	Permanent	Mold	Die	All Other
1952 Total	1,009,910	910,862	63,865	8,259	26,924	30,734
1953 Total	990,496	888,369	61,316	10,077	30,734	30,734
1954 Total	834,557	751,804	48,849	6,480	27,394	27,394
1955 Total	1,011,748	907,852	63,041	8,541	31,408	31,408
1956 Total	966,113	866,404	57,522	10,023	32,134	32,134
1957 Total	875,389	789,819	44,746	10,776	30,048	30,048
1958						
August	57,590	52,981	2,425	682	1,702	1,702
September	64,447	58,435	2,888	876	2,248	2,248
October	74,012	67,564	3,239	790	2,419	2,419
November	62,746	57,386	2,604	810	1,946	1,946
December	67,905	61,119	3,535	1,059	2,192	2,192
Total	739,985	667,255	36,529	10,201	22,681	22,681
1959						
January	66,874	59,856	3,572	1,216	2,230	2,230
February	66,589	62,593	3,557	1,176	2,263	2,263
March	78,641	69,472	4,333	1,361	3,475	3,475
April	82,799	73,567	4,640	1,328	3,264	3,264
May	78,413	69,351	4,363	1,291	3,408	3,408
June	79,730	70,836	4,421	1,175	3,298	3,298
July	69,073	61,650	3,869	946	2,608	2,608
August	68,979	60,346	4,410	993	3,230	3,230
September	76,045	66,517	4,810	1,138	3,580	3,580
October	79,832	69,583	5,172	1,169	3,908	3,908
November	70,674	61,490	4,893	1,160	3,131	3,131
December	73,558	64,579	4,337	1,130	3,512	3,512
Total	891,216	790,290	52,377	14,083	36,907	36,907
1960						
January	73,971	65,742	3,915	1,371	2,943	2,943
February	74,246	65,500	4,198	1,282	3,266	3,266

Nickel Averages

Electro, cathode sheets, 99.00%,
f.o.b. refinery, duty included
(Cents Per Pound)

	1957	1958	1959	1960
Jan.	74.00	74.00	74.00	74.00
Feb.	74.00	74.00	74.00	74.00
Mar.	74.00	74.00	74.00	74.00
Apr.	74.00	74.00	74.00	...
May	74.00	74.00	74.00	...
June	74.00	74.00	74.00	...
July	74.00	74.00	74.00	...
Aug.	74.00	74.00	74.00	...
Sept.	74.00	74.00	74.00	...
Oct.	74.00	74.00	74.00	...
Nov.	74.00	74.00	74.00	...
Dec.	74.00	74.00	74.00	...
Aver.	74.00	74.00	74.00	...

Platinum Averages

N. Y. MONTHLY QUOTATIONS
(Dollars per Troy Ounce)

	1957	1958	1959	1960
Jan.	101.92	77.85	52.57	80.00
Feb.	98.59	74.82	59.25	83.29
Mar.	93.50	72.096	77.10	83.00
Apr.	93.45	70.72	77.18	83.00
May	92.865	67.34	77.50	...
June	92.02	66.18	77.50	...
July	90.265	64.35	78.00	...
Aug.	84.426	60.94	78.00	...
Sept.	84.00	59.50	78.00	...
Oct.	84.00	57.327	78.00	...
Nov.	83.80	56.41	78.44	...
Dec.	78.70	53.154	78.50	...
Aver.	89.79	65.07	74.17	...

Spot Straits Tin

(Straits, Open Market, N. Y.)

	Monthly Average Prices	1957	1958	1959	1960
Jan.	101.511	92.94	99.411	99.863	...
Feb.	101.132	93.915	102.785	101.178	...
Mar.	99.643	94.452	103.042	100.228	...
Apr.	99.304	93.988	102.505	99.25	...
May	93.347	94.512	103.125	...	...
June	98.05	94.708	104.25	...	...
July	96.52	94.898	102.337	...	...
Aug.	94.261	94.988	102.333	...	...
Sept.	93.406	94.101	102.44	...	...
Oct.	91.838	96.523	102.238	...	...
Nov.	89.236	99.118	101.021	...	...
Dec.	92.35	98.989	99.176	...	...
Aver.	96.301	95.177	102.055	...	...

Prompt Tin Prices

(Straits, Open Market, N. Y.)

	Monthly Average Prices	1957	1958	1959	1960
Jan.	101.347	92.653	99.351	99.863	...
Feb.	100.257	93.763	102.708	100.987	...
Mar.	99.476	94.363	103.042	100.098	...
Apr.	99.288	92.988	102.505	99.25	...
May	98.335	94.512	103.107	...	...
June	98.025	94.619	104.142	...	...
July	96.44	94.892	102.337	...	...
Aug.	94.159	94.976	102.345	...	...
Sept.	93.313	94.054	102.435	...	...
Oct.	91.848	96.455	102.238	...	...
Nov.	89.236	98.985	100.972	...	...
Dec.	92.34	98.96	99.176	...	...
Aver.	93.672	95.069	102.03	...	...

Quicksilver Averages

N. Y. Monthly Averages
Virgin, Dollars per 76-lb Flask

	1957	1958	1959	1960
Jan.	256.00	224.35	219.50	211.30
Feb.	256.00	229.39	219.50	212.68
Mar.	256.00	232.096	223.57	214.00
Apr.	256.00	233.06	239.52	214.00
May	256.00	229.48	245.86	...
June	256.00	229.00	241.64	...
July	256.00	230.25	236.74	...
Aug.	252.20	240.27	232.524	...
Sept.	248.58	241.12	225.429	...
Oct.	234.48	235.94	224.548	...
Nov.	228.33	230.05	217.944	...
Dec.	226.50	223.54	215.05	...
Aver.	248.51	230.96	228.49	...

METALS, MAY, 1960

Primary Aluminum Output, Shipments and Stocks

(U. S. Department of Interior)

	Stocks beginning of month short tons	Production short tons	—Sold or Used— Short tons	Value l. o. b. plant	Stocks end of month short tons
1958					
Total		1,565,556	1,595,067		
1959					
January	146,086	156,700	127,678	\$62,375,824	175,108
February	175,108	142,116	133,397	65,668,578	183,827
March	183,827	157,189	181,839	82,304,609	159,177
April	159,177	155,213	182,930	90,070,280	131,460
May	131,460	163,857	182,607	89,672,327	112,710
June	112,710	167,323	191,421	93,955,552	88,612
July	88,612	179,194	187,387	91,635,864	80,419
August	80,419	172,816	159,206	77,711,678	94,029
September	94,029	168,206	153,170	74,809,052	109,065
October	109,065	173,742	151,683	73,293,070	131,124
November	131,124	153,665	152,024	74,247,828	132,765
December	132,765	162,996	184,123	89,712,146	111,638
Total		1,953,017	1,987,465		
1960					
January	111,638	164,023	148,129	\$73,424,794	127,352
February	127,352	156,825	167,215	83,087,192	117,142

Aluminum Wrought Products

PRODUCERS' MONTHLY NET SHIPMENTS
(Bureau of Census — Thousands of Pounds)

	Total	Sheet, Plate, Foil, Rod & Bar	Wire & Cable	Extruded Shapes & Tubing	Powder & Paste
1955 Total	2,805,500	1,542,363	365,391	812,311	35,854
1956 Total	2,870,101	1,577,601	398,602	782,398	28,017
1957 Total	2,677,423	1,396,502	399,040	789,430	28,187
1958					
December	235,377	130,474	26,253	72,979	1,806
Total	2,624,911	1,441,385	285,355	821,249	25,742
1959					
January	235,463	132,361	26,480	70,309	2,246
February	230,733	131,564	21,740	71,364	2,028
March	271,642	161,285	21,940	81,276	2,578
April	293,554	166,942	25,468	93,475	3,178
May	320,786	184,664	28,532	99,308	3,641
June	341,389	195,476	30,156	107,038	3,901
July	373,060	211,850	39,902	111,661	4,708
August	247,833	126,512	29,411	85,380	2,537
September	262,749	140,313	25,843	89,986	2,419
October	287,081	154,669	27,614	97,478	2,697
November	247,260	136,516	20,528	83,594	2,304
December	268,155	152,007	24,210	84,504	2,606
Total	3,397,705	1,894,159	321,824	1,075,373	34,843
1960					
January	250,116	141,060	22,475	78,674	3,370
February	256,017	147,026	22,626	79,268	2,435
March	272,867	160,618	21,990	83,128	2,578

Aluminum Castings Shipments

(Bureau of Census)

BY TYPE OF CASTING

	Total (Thousands of Pounds)	Sand	Permanent Mold	Die	All Other
1954 Total	609,066	155,738	213,968	232,726	6,800
1955 Total	833,058	171,767	298,115	354,804	8,282
1956 Total	801,036	171,763	245,421	376,108	7,736
1957 Total	751,656	144,121	232,326	369,086	...
1958					
December	59,487	10,874	18,970	29,579	...
Total	596,790	117,421	186,949	292,599	...
1959					
January	62,927	10,907	20,606	21,349	...
February	62,846	10,627	21,127	31,021	...
March	73,351	12,412	26,964	33,949	...
April	72,976	12,700	26,153	33,992	...
May	68,268	11,979	25,283	30,877	...
June	66,471	12,306	24,927	29,092	...
July	56,911	11,581	20,410	24,786	...
August	55,904	11,130	17,824	26,818	...
September	66,193	12,309	21,506	32,239	...
October	67,499	12,958	21,781	32,640	...
November	54,557	10,813	18,326	27,303	...
December	64,939	12,409	19,902	32,523	...
Total	772,212	142,131	262,179	346,589	...
1960					
January	68,247	11,278	22,368	34,514	...
February	71,792	11,855	23,336	36,493	...

METALS, MAY, 1960

Virgin Aluminum

Ingot (30 lb.) 99½% Plus, Delivered
Monthly Average Prices
(Cents Per Pound)

	1957	1958	1959	1960
Jan.	27.10	28.10	26.80	28.10
Feb.	27.10	28.10	26.80	28.10
Mar.	27.10	28.10	26.80	28.10
Apr.	27.10	26.10	26.80	28.10
May	27.10	26.10	26.80	...
June	27.10	26.10	26.80	...
July	27.10	26.10	26.80	...
Aug.	28.10	26.77	26.80	...
Sept.	28.10	26.80	26.80	...
Oct.	28.10	26.80	26.80	...
Nov.	28.10	26.80	26.80	...
Dec.	28.10	26.80	27.361	...
Aver.	27.517	26.889	26.847	...

Magnesium Wrought Products Shipments

(Bureau of Census)

(Thousands of Pounds)

	1957	1958	-1959	1960
Jan.	2,130	1,271	1,271	1,535
Feb.	2,522	1,280	1,691	1,724
Mar.	2,388	1,398	1,717	1,717
Apr.	2,511	1,479	2,089	...
May	2,230	1,443	1,644	...
June	1,881	1,709	1,946	...
July	1,428	1,227	1,681	...
Aug.	1,540	1,823	1,823	...
Sept.	1,501	1,807	1,807	...
Oct.	1,453	1,983	2,220	...
Nov.	1,230	1,662	1,320	...
Dec.	1,102	1,622	1,675	...
Total	21,915	18,702	20,884	...

Cadmium Averages

(Cents Per Pound)

N. Y. Monthly Averages
Cents per lb. in ton lots

	1957	1958	1959	1960
Jan.	170.00	155.00	145.00	148.50
Feb.	170.00	155.00	145.00	150.00
Mar.	170.00	155.00	145.00	150.00
Apr.	170.00	155.00	120.00	150.00
May	170.00	155.00	120.00	...
June	170.00	155.00	120.00	...
July	170.00	155.00	120.00	...
Aug.	170.00	155.00	120.00	...
Sept.	170.00	152.60	120.00	...
Oct.	170.00	145.00	*140.00	...
Nov.	170.00	145.00	140.00	...
Dec.	166.40	145.00	140.00	...
Aver.	169.70	152.30	132.00	...

* As of Oct. 1, 1959, for lots of up to one ton.

Steel Ingot Production

(American Iron and Steel Institute)

Period	Estimated Production			All Companies			Calculated weekly production, all companies		
	Net tons	% of capacity	Net tons	% of capacity	Net tons	% of capacity	Net tons	% of capacity	Net tons
1954 Total	80,327,494	73.6	2,548,104	53.2	5,436,054	52.0	88,311,652	71.0	1,693,741
1955 Total	102,840,585	91.6	3,227,997	67.4	9,147,567	81.2	115,216,149	89.8	2,203,828
1957 Total	101,667,776	87.9	2,475,138	54.9	8,582,082	71.3	112,714,996	84.5	2,161,776
1958									
December	7,764,000	74.7	117,000	34.2	832,000	68.1	8,793,000	72.9	1,971,000
Total	75,888,392	62.0	1,396,348	34.7	7,972,623	55.4	85,257,363	69.6	1,635,162
1959									
January	8,280,985	77.1	120,005	39.5	729,675	63.7	9,317,385	74.3	2,103,247
February	8,540,000	88.0	129,000	47.0	757,000	73.1	9,603,000	84.8	2,401,000
March	10,216,474	95.1	184,892	60.9	929,784	81.1	11,567,745	92.3	2,611,229
April	9,884,332	95.0	196,000	66.2	964,850	87.0	11,281,920	93.0	2,629,818
May	10,117,968	94.2	200,887	66.1	1,024,401	89.4	11,600,581	92.5	2,618,441
June	9,521,053	91.6	185,794	63.2	941,056	84.8	10,907,634	89.9	2,542,572
July	4,540,182	42.2	66,433	21.9	526,025	45.9	5,227,129	41.7	1,182,608
August	1,171,342	10.9			267,935	23.4	1,439,277	11.5	324,893
September	1,249,398	12.0			285,619	25.8	1,535,017	12.7	358,649
October	1,385,490	12.9			319,943	27.8	1,704,533	13.6	384,770
November	6,290,659	60.5	92,361	31.4	754,793	68.0	7,267,607	52.9	1,694,081
December	10,468,534	92.4	205,666	67.7	1,033,668	90.2	11,989,319	95.6	2,712,516
Total	81,668,997	64.5	1,380,283	38.6	8,532,514	63.2	93,446,132	63.3	1,792,216
1960									
January	10,510,616	97.7	211,132	73.2	1,046,675	85.6	12,049,404	95.5	2,719,956
February	9,713,527	94.0	216,263	80.2	949,588	83.0	11,126,806	94.3	2,687,634
March	10,103,122	93.9	202,812	70.3	952,008	77.9	11,564,683	91.6	2,610,538
April	8,602,000	82.7	105,000	37.6	761,000	64.3	9,771,000	80.0	2,278,000

Steel Ingot Operations

(Percentage of Capacity as Reported by American Iron & Steel Institute)

Week	Beginning	1957	1958	1959	1960
Jan. 4...	98.4	56.1	76.2	95.3	
Jan. 11...	96.4	57.0	73.6	95.7	
Jan. 18...	96.6	55.5	74.6	95.4	
Jan. 25...	97.6	54.0	72.6	94.2	
Feb. 1...	97.1	54.0	76.9	94.3	
Feb. 8...	97.7	53.5	83.8	95.7	
Feb. 15...	97.8	50.9	83.7	93.8	
Feb. 22...	96.0	54.6	88.5	94.4	
Feb. 29...	97.1	53.1	90.3	92.8	
Mar. 7...	93.8	52.4	92.0	93.1	
Mar. 14...	93.5	52.5	92.9	91.5	
Mar. 21...	92.4	50.6	92.9	91.1	
Mar. 28...	90.6	48.6	93.2	88.7	
Apr. 4...	90.3	48.5	93.3	84.8	
Apr. 11...	90.4	46.8	93.8	78.1	
Apr. 18...	88.7	47.9	93.5	78.5	
Apr. 25...	87.0	47.8	94.2	77.6	
May 2...	86.7	49.4	92.0	75.0	
May 9...	84.2	52.3	92.9	73.8	
May 16...	86.4	56.4	93.4	71.3	
May 23...	88.0	58.1	93.6	66.9	
May 30...	87.5	62.5	93.7		
June 6...	86.5	84.0	92.0		
June 13...	85.2	64.9	92.5		
June 20...	84.0	61.7	87.8		
June 27...	78.5	51.0	78.2		
July 4...	78.7	53.4	79.5		
July 11...	79.3	54.9	38.7		
July 18...	79.4	57.3	12.9		
July 25...	79.4	57.8	12.2		
Aug. 1...	79.8	58.8	11.2		
Aug. 8...	80.6	60.5	11.8		
Aug. 15...	82.1	62.6	11.3		
Aug. 22...	82.2	63.5	11.7		
Aug. 29...	81.0	61.7	11.5		
Sept. 5...	81.9	65.9	11.6		
Sept. 12...	82.1	65.6	12.6		
Sept. 19...	82.2	67.3	12.8		
Sept. 26...	82.6	70.4	12.8		
Oct. 3...	82.8	71.6	12.8		
Oct. 10...	80.9	74.2	13.0		
Oct. 17...	80.2	74.8	13.1		
Oct. 24...	79.7	75.0	13.1		
Oct. 31...	78.0	74.5	13.0		
Nov. 7...	77.7	74.5	45.6		
Nov. 14...	76.0	74.1	78.9		
Nov. 21...	72.1	73.7	89.7		
Nov. 28...	71.5	73.5	93.6		
Dec. 5...	69.2	73.5	96.5		
Dec. 12...	67.7	74.5	96.3		
Dec. 19...	53.7	74.5	94.9		
Dec. 26...	59.0	73.6	96.3		

Blast Furnace Output

(American Iron and Steel Institute)

Period	net tons			Total Capacity	% of capacity
	Pig Iron	Iron-manganese & Spiegeleisen	Total		
1951					
Tot. Yr.	70,487,889	745,881	71,233,761	98.8	
1952					
Tot. Yr.	81,828,468	629,926	82,458,394	84.3	
1953					
Total	74,987,721	585,038	75,572,759	95.5	
1954					
Total	88,119,852	608,788	88,728,640	71.6	
1955					
Total	77,114,073	688,768	77,802,841	92.7	
1956					
Total	75,301,134	664,341	75,965,475	88.9	
1957					
Dec.	5,212,624	69,175	4,854,444	62.8	
Total	78,557,911	782,660	79,339,671	91.4	
1958					
Jan.	4,785,269	69,175	4,854,444	62.8	
Feb.	4,016,276	47,953	4,064,229	58.2	
Mar.	4,418,778	45,175	4,463,953	57.8	
Apr.	3,877,907	39,302	3,917,209	51.2	
May	4,048,328	25,468	4,073,796	52.7	
June	4,396,285	26,463	4,422,748	59.1	
July	4,277,516	26,668	4,304,184	55.7	
Aug.	4,799,965	31,374	4,831,339	62.1	
Sept.	5,041,042	31,848	5,072,890	67.8	
Oct.	5,835,995	36,963	5,872,958	76.0	
Nov.	5,907,888	39,275	5,947,163	79.5	
Dec.	6,025,385	47,506	6,072,890	78.6	
Total	67,298,644	465,456	67,764,100	63.5	
1959					
Jan.	6,260,395	48,572	6,308,967	77.9	
Feb.	6,047,398	45,274	6,092,672	85.3	
March	7,761,760	48,291	7,810,051	93.4	
April	7,338,372	54,234	7,392,606	95.0	
May	7,683,759	64,237	7,747,996	96.4	
June	7,231,631	58,315	7,289,946	93.7	
July	3,550,159	23,391	3,573,550	44.5	
Aug.			947,779	11.8	
Sept.			949,103	12.2	
Oct.			1,017,659	12.7	
Nov.	4,199,101	20,172	4,219,273	54.2	
Dec.	7,638,359	65,728	7,704,087	95.0	
Total	60,322,426	452,313	60,774,739		
1960					
Jan.	7,753,753	76,344	7,830,097	95.5	
Feb.	7,342,469	71,533	7,414,002	95.1	
March	7,713,696	79,715	7,793,411	95.1	
April	6,770,229	69,864	6,840,093	86.1	

Steel Castings Shipments

(Bureau of Census)

Period	(Short Tons)		
	Total	For Sale	For Own Use
1951	2,101,604	1,507,413	594,191
1952	1,925,116	1,476,352	448,767
1953	1,829,277	1,290,016	431,330
1954	1,184,096	880,158	303,938
1955	1,530,694	1,166,706	363,988
1956	1,931,987	1,512,290	416,697
1957			
Total	1,766,191	1,261,301	406,444
1958			
Feb.	103,297	79,708	23,589
Mar.	106,233	82,195	24,038
Apr.	91,464	69,121	22,343
May	87,002	66,086	20,916
June	92,681	71,624	21,237
July	68,802	48,618	10,184
Aug.	80,886	59,816	21,070
Sept.	85,277	64,586	20,691
Oct.	95,389	73,367	22,022
Nov.	85,267	65,788	19,479
Dec.	103,800	81,360	22,440
Total	1,114,939	859,125	255,814
1959			
Jan.	105,392	82,693	22,709
Feb.	110,280	86,013	24,267
Mar.	131,317	103,848	27,469
Apr.	134,344	104,890	29,454
May	135,359	105,804	29,555
June	143,624	111,725	31,899
July	106,790	83,541	23,249
Aug.	98,014	79,188	18,826
Sept.	99,731	79,963	19,768
Oct.	105,570	84,850	20,720
Nov.	109,460	86,026	23,434
Dec.	103,800	81,360	22,440
Total	1,023,861	919,181	294,430
1960			
Jan.	122,565	94,052	28,513
Feb.	129,259	97,927	31,332

Galvanized Sheet Shipments

(American Iron & Steel Institute)

Period	(Net Tons)			
	1957	1958	1959	1960
Jan.	235,902	186,649	279,244	323,073
Feb.	205,048	167,627	281,637	289,583
Mar.	206,836	195,885	311,961	329,395
Apr.	198,585	206,368	328,759	
May	206,657	231,318	317,059	
June	239,037	277,180	350,333	
July	167,247	239,853	180,787	
Aug.	186,790	253,263	N.A.	
Sept.	183,952	258,723	N.A.	
Oct.	212,886	290,157	N.A.	
Nov.	190,380	253,909	196,644	
Dec.	159,363	266,472	301,911	
Total	2,392,637	2,828,848	2,772,835	

N.A.—Not available.

SHIPMENTS OF TIN-TERNEPLATE

(American Iron & Steel Institute)

Period	(Net Tons)			
	Hot Dipped	Electrolytic	1959	1960
Jan.	30,304	32,525	417,210	493,828
Feb.	24,602	29,385	442,625	443,619
Mar.	46,705	38,131	597,408	538,166
Apr.	54,906		689,998	
May	64,110		689,064	
June	62,965		673,819	

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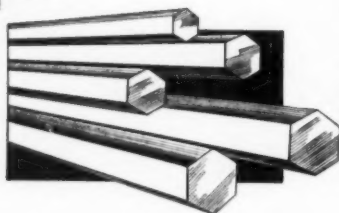
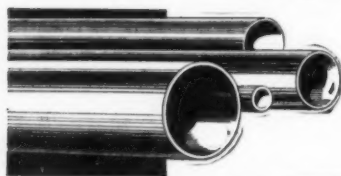
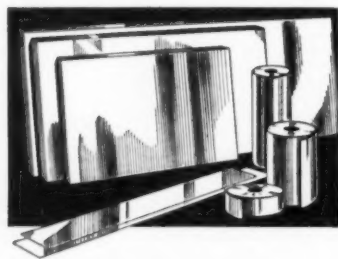
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